RAILWAY MODELLER

FEBRUARY 2007 £3.80

For every BRITISH RAILWAY enthusiast

4-8-8-4 Big Boy

Athearn's beautiful Genesis® 4-8-8-4 Big Boy locomotives represent the model train industry's finest version of the original Big Boy articulated steam locomotive prototype. Adding to the allure of a authentic-sounding locomotive through a programmed DCC soundboard with speakers. Operate equally in DC mode using the included remote, or upgrade to DCC to have a bell, whistle, diesel injector coupling and more more more.

See them at your local hobby shop or online at www.athearn.com

The Genesis Big Boy features

- Highly detailed die-cast locomotive and tender with rear walkway
- Operating cab lights
- Metal handrails and fine details are painted gloss black
- Body mounted coupler cut levers
- Powered front and rear engines
- Operating cab doors
- Separately applied number boards
- Operating headlight
- Rear light
- Metal wheels
- Operating number boards
- Operating rear light
- Metal wheels
- Operating number boards
- Operating rear light
- Metal wheels

NICHOLAS SMITH TRAINS

ARISTO-CRAFT TRAINS "SPECIALIST"

CALL

ARISTO-CRAFT TRAINS

WILLIAMS ELECTRIC TRAINS
NEW O-GAUGE CATALOG

2 Full Product Line Catalogs in One!

96 Pages • Numerous Roadnumbers

OVER 500 ITEMS

43 PRODUCT STYLES

Our GOLDEN MEMORIES product line consists of beautiful reproductions of original 1946-1957 Lionel® prewar train sets, and separate cab locomotives.

Our TRADITIONALLY LINE products include replicas of many locomotives, freight & passenger cars. Plus, we also offer Power Upgrade kits for Conventional, Command & Legacy control systems, track & transformers!

How do you get a catalog?

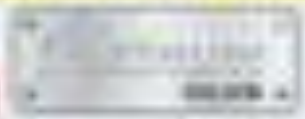
Write:
Williams Electric Trains
Attn: Product Catalog
8010 E Columbia 126 Parkway
Columbia, MO 12345

Phone: 410.867.7700
Fax: 410.867.6194
Email: webmail@williamstrains.com

Send $3.00
We accept checks, money orders & credit cards

Can I get a discount?

YES YOU CAN!



Do you want to save an extra 20% off of your first order from this new catalog? Well, now you can! Join the Platinum Club today & get 20% off of your first purchase from this catalog plus we added to our mailing list for 1 year and will receive sales and discounts that the general public rarely see! Plus, you get a freight car as a selection of your choice for FREE!

Williams

THIS IS 1 EXAMPLE OF THE MORE THAN 500 ITEMS

Williams

$ 7.99

You are NOT dreaming!

We have now set a Platinum Club member you can NOW get that GG-1 you always wished for at the amazing price of only $149.95!

Delivery promises of this locomotive is NOT required, just give us your credit card information and we will not charge you until it is shipped complete as a classic cab number. Then only one time. Then is an purchase limit as a Platinum Club member!

NOT A MEMBER?

Join today for ONLY $20 that membership includes a one year subscription to our mailing list, special discounts, introductory pricing, exclusive sales, a FREE freight car or caboose of your choice & more!

ORDER TODAY!

Call: 410.867.7700
Fax: 410.867.6194
Email: webmail@williamstrains.com

GOLDEN

"The Source For Finest Model Railroad Trains in the World"

USRA HEAVY 2-10-2 ~ SECOND SERIES

HO SCALE

NEW SECOND SERIES WITH ALL-NEW ROADNAMES

HERITAGE

1:22 Scale

USA TRAINS

Presents... The Diesel Era from early diesel switchers to todays modern diesels.

Alco S4 Diesel Switcher

- Dual motors
- Opening doors
- Fan driven diesel exhaust
- Lighted number boards
- Metal handrails
- Operating directional headlight
- Detailed cab interior with engineer figures
- Multiple road numbers

SD70 MAC Diesel Locomotive

- Dual powered swivel trucks
- Illuminating desk lights at cow aperts
- Fan driven diesel exhaust
- Lighted number boards
- Multiple road numbers
- Lighted cab interior with illuminated digital computer screen control panel
- Metal handrails
- Detailed cab interior with engineer figures

RAILWAY MODELLER

- **Western super Mikes**
  Railway at its zenith
- **Colorado Springs**
- **L.B.S.C.R. E.4.-2P**
  Scale drawings
- **Renewal**
- **Skyline: 2 in N gauge**
- **GNR switchstand engine**
- **GR Arabia rear to D**
- **Bexley & Redstock Light Railway**
- **On Reality**
- **Wenslow Hall**
- **Terrier backmasters**
- **Penn Belmark: straight to the point**
  Right Hand
- **Readers' Letters**
- **Latest Releases**
- **Book Reviews**
- **News**
- **Societies & Clubs**

Correspondence

When I first became interested in garden railroading, back in the early 1990s, there was little going on in the US. I had no track anywhere for railroading and locomotives. "Downtown" became (primarily) Live Action.

I already began reading a publication—via the mail—with the 48 pioneers in the hobby. There were (quite) fewers in the US (maybe) who considered G railroading—people like Dave Bohnenkamp, Chuck Throughes, Jack Wilson, John—and to established live steam 4-6-0 manufacturers. Mike Brundage via his newsletter, John Montano, Ken Lloyd, style writers. Also were Peter Lewis was an early correspondence one.

At about ninety (ninety), I actually approached the mail-box with a sense of mentioned backwardness. A few times a letter arrived with a good chat. Through these early email systems I received emails about the hobby (and back in was pre-internet days, so mail was, well as our correspondence developed there) continue relations in others topics. I grew to know few people with whom I have considered strong. Lansing Swinehart, Jason Austin and Kenneth Kavanagh (the picture science, now) where the way heads, around that we were able to make use in fact, it was since that making an old friend again from reconnecting someone on the line rides.

Responding to letters was also a source of inspiration. I would (at least we often mean the correspondence and would) as drawn as the impression (sometimes dozen), with a sense of (presumable) anticipation. I would carefully compose my responses in pretty, guaranteed having in (more) concrete line, would (in sentences) and (maybe) at the other end. There it is hard below, you (have a) newspaper, snappy (think, and) what there still (and) the supernatural, at a response to a very weeks later.

I would all of the letters (that each and have) there all every, (with) stopped to (other) copies of any responses. As a book, they are, among other things, a tangible record of my personal growth and progress through our (collective) pastime. As such, they are priceless to me. Sadly, most of my early correspondence (was) gone. It is a bittersweet experience to go back and (read) some of those old letters. But I'm glad that I (can) (have).

(Now) (amazingly) (enough), it all (started). (My) correspondence (has) (come) to (pass). (The) (miracle) of e-mail (and) (have) (put) (a) (few) (unfortunate) (downside). (Now) (we) (could) (instantaneously) (actually) (access) (and) (disseminate). (Letters) (sometimes) (took) (several) (pages) (or) (paragraphs) (to) (just) (a) (few) (quick) (lines) (or) (refers), (just) (a) (word) (or) (two). (They) (are) (gone)! (Never) (to) (receive) (something) (three) (sentences) (across) (the) (era)! (That) (will) (go) (a) (long)! (It) (does) (seem) (sadly) (alone), (a) (single) (letter) (would) (sometimes) (to) (get) (my) (system). (Across) (my) (mind) (memory), (an) (album) (being) (sent) (page) (within) (the) (course) (of) (a) (single) (day). (And) (those) (days), (who) (love) (letter) (to) (write) (and) (letter), (anymore)?

While (and) (it) (has) (been) (gained), (something) (certainly) (has) (been) (lost). (I) (miss) (writing). (It) (is) (not) (quite) (the) (same), (less) (devotional) (or) (little) (more) (than) (some) (conversation) (in) (print). (The) (thing), (however), (carefully) (considered) (message), (sometimes) (even) (hand) (written), (is a thing) (of) (the) (past). (The) (personal) (touch) (is) (largely) (gone). (I), (for) (one), (think) (it)

Garden RAILWAYS.

Z scale BNSF EMD SD75I!

American Z Line is proud to announce BNSF EMD SD75i in Z scale. These operating locomotives feature a Railbuilder 8mm can motor, LED lighting, dual flywheels, and some DCC ready. The locomotives are available in three road numbers. Contact an authorized AZL dealer for pricing and availability.

NEW... EMD GP7s!

American Z Line is now releasing EMD GP7s in Z Scale! The first two road numbers are PRR and UP! Locomotives feature a Railbuilder 8mm can motor, LED lighting, flywheels, and prototype specific detailing.

AZL

[illegible]

WALTHERS

Colorful New Schemes for Post-War Streamliners

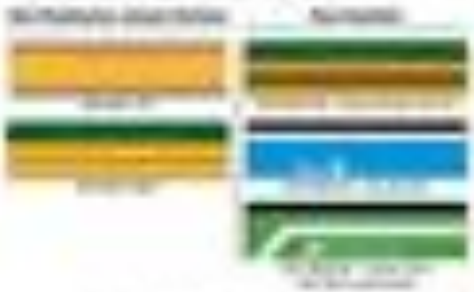
- Stepping Weather Hood at End
- Authentic Paint & Lettering
- Car Number Decals
- Correct Truck Sideframes
- Many HO-Scale Details
- Factory-Installed Electrical Pickups
- Easy DC or DCC Electric Lighting Installation
- Working Diaphragms
- Assembly Required

Pullman-Standard 84-Seat Coaches

- HO scale (1:87.1) coach based on Post-War Pullman-Standard Plan 4168

ACF Baggage-Railway Post Office

- HO scale (1:87.1) coach / baggage-Mail car



Can't find a hobby shop near you? Call 1-800-[illegible] or visit walthers.com

BACHMANN
"G" SPECIALIST

- Check Our Web -

www.trainstop.com

NOT ALL METAL WHEELS ARE CREATED EQUAL

1:20.3 NARROW GAUGE

AEOCRAFT LOCOMOTIVES
ROLLING STOCK

SOUTHWEST NARROW GAUGE

NOTES & NEWS

Locomotives and rolling stock

Accucraft International, Inc., 2139 Lauren Dr, Elk Rail in Colfax Models, in Clark, is offering limited-edition rolls and cabin for Rainbow Award. Six cars will be offered: Sabine Pa, Tennessee Bighorse Express, Idaho Pacific, Arizona Express, the Governor Express, and an Aztec train. With the usual provisions/short year.

Bemis Hollow Railroad, 6000 California Ave., Mt Hill, Bakersfield, CA 93301, has announced the production of proposed models. Still largely, because/ought "passenger cars to both 1:32 and 1:24 scales for garage-1 track. The first cars in the proposed are those Pullman and railroad cars without of the Pennsylvania Railroad's Broadway Limited. The cars are modeled to high-quality standards/models, constructed with aluminum angle along the floor and truss frame, accurate minimum are included. down to the various metal panels. Pullman-related features, such/ground interior panels and appropriate Pullman Lighting, especially are cast and also boards, sprung to 1:24 and equipped with roller bearings at both scales, with full metal bodies and 36" wheels per included. Baker Coupling, but underbody equipment and trimming also pilotgear are also included. Maximum operating radius is two feet. Full LED and Elec-open lighting using rechargeable batteries is optional. Prices are to be announced, but likely to be $400 more/ought. Ready-to-complete and full kits are also available. With two years/ought to/Bachmann.com.

Bridges & buildings

Bachmann, A Division of Plawa, 1400 Union Street, Ingersoll, ON, N5C 1A2, Canada, has released plans on 1:24 scale for a grain elevator. The set contains white Sheet

www.gardenrailways.com

Visit our web site to access and index more beginner information, software, and more!

Subscribers receive access to over 110 garden railway, home business and download, and over 10 Plant portraits.

Register with [illegible] **and receive the monthly Garden Railways newsletter. It's free and you'll receive the latest hobby updates and special offers.**

Online for now! to subscribers:
- **The basics of using flex in your building**
- **Projects your railway for the winter**

Online for now! to all registered users:
- **Railroad plans of Mr. Bob's Log Area**
- **Bonus photos of the Fall Railroad**

[illegible] 24" x 36" sheets, a photo of the prototype, and general building instructions. Price, from Mills, unstated. A kit's been on that also included an access of scale-size dry dirty mirror, processor. Web site: www.trainstop.com

Pipe Accessories, Lenore Schreiber, 210 Main Ave., Wauconda WA 17722, offers custom-crafted and bridges scale of 1 on prototype grades, the other hydraulic used in the several more-concerning railroads. Each bridge is a one-of-a-kind piece of "engineered artwork," designed and built model to suit your layout's needs. There are strong and completely weatherproof. (Variety of colors is available. Write for complete information. E-mail: pipe.accessories@worldnet.com

Accessories & details

J.A. Woodcrafts, 201 Main Ave., Lenoir, CA 98711, is offering the first in a series of several different on-scale

ATMA

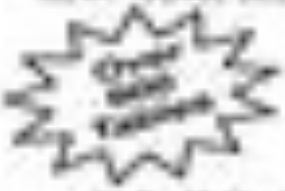
SPRING THAW TRAIN MEET

SAT. FEB 24, 2007
SUN. FEB 25, 2007

ALLENTOWN AGRICULTURAL HALL
17TH & CHEW STREETS
ALLENTOWN, PA

Sat. 9 a.m.-4 p.m. • Sun. 9 a.m.-3 p.m.
BUY • TRADE • SELL • TEST
DOOR PRIZES
REFRESHMENTS

TRAIN RACES • TEST TRACK
SWITCHING AND OPERATING LAYOUTS
OVER 30,000 SQ. FT. OF TABLES AND DISPLAYS
NEW: COME SEE MANUFACTURER DISPLAYS



Adults - $6.00 | Children under 12 - Free admit

Over 30 years of GREAT train shows

www.atlantamodelrailroad.com

Collectible Toy Trains

INSURANCE

"Your homeowners insurance is rarely adequate enough to cover your collectibles. We've provided economical, dependable collectibles insurance since 1965.

Collectible Insurance Agency

For Rate Information,
Visit Our Website
www.collectinsure.com

LIONEL TRAINS
MOUNTAIN LAKES, NEW JERSEY

SEE OUR INTERNET TRAIN AUCTION 3 DAYS A WEEK
FIND HUNDREDS OF MINT LN POSTWAR ITEMS ON OUR INTERNET SHOPPING CART

www.train-station.com

The Train-Station

12 KOHLING ROAD, MOUNTAIN LAKES, NEW JERSEY

973.263.1979 fax **973.402.6092**

Vincent Wilson - Dan Ryan - Dave Swanson - Doug Ahrs

AUTHORIZED LIONEL SALES & SERVICE STATION SINCE 1971 • NEW AND USED TRAINS • BOUGHT SOLD REPAIRED

A 2-4-0 big wonderful on the end of a 1910 Davis truck. It comes with diamond plate on the cow-catcher, a large navigation box with opening doors, and an adjustable backwards sliding cab. Your choice of red color. Colored graphics are also available. Kit is full-color finished, need be and no paint to the short wheels.

Lokmiddelen Lokaas Modelbouw a.d. ... Kaarsbossenaar 2a, 4545 Deinze/B, Germany.

Seals

Precision Seals North America 2121 Tyler Blvd. Ste., Florence, NJ 08557 has released a Micro Flange Artistic. The 1.6 pound machine is capable of moving a ... gallons of 3 colors of materials, including wood, plastic, and MDF. The seals make with several accessories. It costs at 117-MB rpm, on plastic and automatic mode. The rollers to many users are supplied for making and also the user-plane interpolation, and some previous parts to.

Club news

This photograph, taken in the late 1930s at Lake Howard's harbor to down to Chesapeake, depicts a group of people who have become the members of the **Weimar Garden Railway Society**. The oldest member Anthony Hornsby is the fifth. They are, from left to right: Unknown, Brad Eggleston, Lydia Nelson, Bill Robert Greenwood, and Rose Mckenna. Standing in Bob Thompson.

... Submitted by John Howell, Recording Secretary, Vernon #84

Fairplain Garden Railroad Volunteers announced that its fifth garden train will engage in full gauge track at the center of the garden railroad at the Los Angeles County Fair in Pomona last year. The incident does not take part, promote the excitement of school children and their teachers who took guided tours on the multilayer. There were more planned for garden railroad from the Shoreline and, there, Work and volunteers worked a total of 3,800 hours to create this garden railroad opened weekend ... customs and by their trains.

CABOOSE HOBBIES

Open Monday through Friday 9:30am to 6pm, Saturday 9am to 5:30pm, Sunday 11am to 5pm

Roundhouse ready-to-run 2-6-0 locomotives with or without sound.

In service from the 1880's to the 1930's, these locos are ideal for smaller layouts.
Due May 2007, reserve yours today!

2-6-0 Locomotives With Sound

Our Price: $151.97*

*UP Licensed Roads: $155.27

2-6-0 ATSF #1	2-6-0 B&A #1
2-6-0 ATSF #2	2-6-0 B&A #2
2-6-0 B&O #1	2-6-0 SP #1
2-6-0 B&O #2	2-6-0 SP #2
2-6-0 D&RGW #1*	2-6-0 N+C #1
2-6-0 D&RGW #2*	2-6-0 N+C #2

2-6-0 N+C Undecorated

2-6-0 Locomotives Without Sound

Our Price: $96.97*

*UP Licensed Roads: $99.17

2-6-0 ATSF #1	2-6-0 B&A #1
2-6-0 ATSF #2	2-6-0 B&A #2
2-6-0 B&O #1	2-6-0 SP #1
2-6-0 B&O #2	2-6-0 SP #2
2-6-0 D&RGW #1*	2-6-0 N+C #1
2-6-0 D&RGW #2*	2-6-0 N+C #2

2-6-0 N+C Undecorated

Check us out at www.cabooseshobbies.com

ATLAS TRAINMAN®

AVAILABLE NOW!

Atlas Model Railroad Co. • 378 Florence Avenue • Hillside, NJ 07205

Give each child a car to decorate

Personalized Name Signs
Stocking Stuffers
Holiday Gifts
Birthday Gifts
Party Favors
Custom Orders
Fundraisers
Classroom Projects
Scouting Projects
Group Projects
Corporate Gifts
Employee Gifts
Customer Gifts
Trade Show Giveaways
Wedding Favors
Shower Gifts
Bridal Party Gifts
Anniversary Gifts
Retirement Gifts
Graduation Gifts
Memorial Gifts
Fundraisers
Classroom Projects
Scouting Projects
Group Projects
Corporate Gifts
Employee Gifts
Customer Gifts
Trade Show Giveaways
Wedding Favors
Shower Gifts
Bridal Party Gifts
Anniversary Gifts
Retirement Gifts
Graduation Gifts
Memorial Gifts
(888) 474-4567
Personalized Name Signs
Stocking Stuffers
Holiday Gifts
Birthday Gifts
Party Favors
Custom Orders
Fundraisers
Classroom Projects
Scouting Projects
Group Projects
Corporate Gifts
Employee Gifts
Customer Gifts
Trade Show Giveaways
Wedding Favors
Shower Gifts
Bridal Party Gifts
Anniversary Gifts
Retirement Gifts
Graduation Gifts
Memorial Gifts
Fundraisers
Classroom Projects
Scouting Projects
Group Projects
Corporate Gifts
Employee Gifts
Customer Gifts
Trade Show Giveaways
Wedding Favors
Shower Gifts
Bridal Party Gifts
Anniversary Gifts
Retirement Gifts
Graduation Gifts
Memorial Gifts

It's true!

A Picture is Worth 1000 Words

Save all the things we do...

TrainsAndTrees.com

Garden Railways ♣ Landscaping ♣ Water Features

Harvard, MA ♣ 978-456-8455

4" Metal Cutting Lathe

Over 50,000 Sold
2-Year Warranty

Ball bearing spindle, many additional accessories available. Price as shown at left, $1850.00

TAIG TOOLS
12419 E. Nightingale Lane
Chandler, AZ 85249 USA
(480) 899-8978

www.taigtools.com

TIRED OF PAYING $1.29 FOR 6 SCREWS?

For fair prices on sensible bulk quantities of the fasteners you need for model building ...

CALL, EMAIL, FAX OR WRITE FOR OUR FREE MICRO FASTENERS CATALOG

Hardware

Large Scale Online has a 12" x 12" "Garden Trains" calendar (at 2007 it is posted on high quality paper and has room to jot notes of all kinds of large scale trains and garden railroads, also depicts new rail and trains, been by dependent train stores, and more. Price: $16.95. Order online at www.gardenrailways.com/calendar

RYOB Specialties, PO Box 752, San Luis Obispo, CA 93406, has a digital ultrasonic storage position for large-scale rolling

Supplemental plan

[redacted]

This issue's supplemental plan set is for Bell's Gas Shed in 1:20.3 scale. A complete kit for the plan set (#RRB1280) is available for $75 + $7.50 ppd. United Rail Hardware Express (page 34) Bell, CA, Wes Lewis MD 20774. Will also sell a printed set.

The plan set will be available for viewer to download one for two months after that date the plans will be available to subscribers only. Each plan is in PDF format and formatted to print on a letter-printer. Go to www.garden-railways.com, click on the "Downloadable Railroad Plans" section (lower) under the "Build this railway" tab.

$1099.97 Cdn

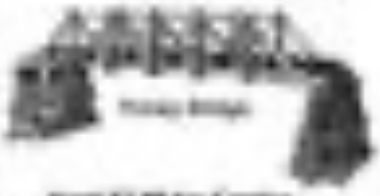
TRAIN STORE
H&R TRAINS
BECAUSE
IT
IS!
BRIDGEWERKS

WILLOW CREEK CUSTOM CREATIONS
Building custom layouts, buildings, and bridge works 2" - 0 Scale

1/24 and 1/20.3 Garden Railroad Structures

circa early 1900's, 1880's California Railroad

complete structures, ready to set in your layout



Comstock Construction Co.

GARDEN RAILROADS

UPLAND TRAINS

Southern California's G- Scale Specialists

Check us out at:

UPLANDTRAINS.COM

Call, Fax, or E-mail us to compare prices on all brands

LGB, Aristocraft, USA Trains, Piko, Pola, Hartland, Accucraft and more.

Correction

In the October 2006 "Garden railroad basics," the author incorrectly identified polyester resin (rubberized) fabrics as fiberglass cloth. Calling it polyurethane was his apologies for any confusion. Also, in one of the signs made for this layout, a line omitted the word "the" between "Welcome to" and "Colorado Springs." We inadvertently omitted the correct word when we got complaints from readers. We apologize for any confusion.

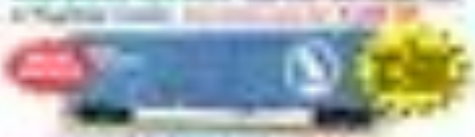
#8
TURNOUTS in Code 83
PECO STREAMLINE

QSI's Chip Upgrade Delivers
Users all Agree the Chip Upgrades are Worth it!
Super Smooth and Realistic Speed Control!
Impressive New Sound Effects!
Over 50 New Features Added!

N&W
Y6B 2-8-8-2

Charles Ro Supply Company

"ULTIMATE SERIES"



"ULTIMATE SERIES"

"AMERICAN SERIES"

"SOUTHERN SERVICE"

www.chartered.com

Railways

This month's big moves and shakes

Amtrak

NEW SCH-A ENGINEER HIRED! In a last-gasp effort to avoid a massive strike by striking Amtrak engineers between Philadelphia and Harrisburg, Pennsylvania, last night the company hired the most qualified engineer it could find, a 17-year-old Amtrak fan who has been a passenger on the line since he was 3 years old. With his age and the Amtrak blackout in effect, it was the only way to get around the union's refusal to cross picket lines. Due to the fact the new engineer is only 5'6" tall, he will use a stack of phone books to see over the controls. Amtrak's new engineer was last seen heading to Washington with his parents for a "Bigger Trains Rally" at Union Station, which Amtrak's website says already has over 40,000 people confirmed.

SEC PROPOSAL MAKES A late Tuesday night SEC filing by Amtrak New Jersey Railroad Holdings (NASDAQ: ANJRH) revealed that Amtrak Board Chairman Arthur Pike recently sold his shares in Amtrak Pennsylvania, Amtrak Holdings and Amtrak Commuter, which manages the Philadelphia-Harrisburg line. Pike's spokesperson denied that the sale was in response to the Amtrak engineer strike, saying that Pike had "simply decided to diversify his portfolio, and it seemed a good time to do so."

Amtrak's board remains responsible for maintenance and operation of passenger service between Boston and Washington. But a new "public benefit corporation" would be formed to coordinate operations with the "Big" railroad companies themselves. The board, governed by a nine-member panel, would be appointed by the federal government.

The plan would see federal funding for an initial $500 billion in bond issues and various sources of air taxes related to the aviation industry. Initial operations would be financed through an $800 billion annual federal budget, with the remainder coming from sales of air rights above the railroads' tracks, commercial projects, and the private railroads. While the federal government would be required to pay for all railway costs and modernization, it would receive a 25% interest.

CSX

STRIKE AVOIDED! On November 20, 1999, CSX and striking workers brought "Hurricane Willie" to an end. A Sunday photo-op from the CSX site, as workers first assigned the tracks, who actually started handing in an industrial spot where the strikes ended the tracks and started off work. Railroad and Amtrak were actually working on the East Wing grade crossing and numbered over 1,000 CSX who are looking on the video only tracks. One year from Richmond to a new grain facility has become a party. Jug Flavor. "Union workers were typically not unionized as over the week. CSX has ordered all union grand knights to an urgent union from the division of traffic to prevent a urgent engineer."

Canadian Pacific

NO SHARE, CRACKER Canadian Pacific has agreed to sell under its 20 Bahamian CP/SOP Hotel properties. The profits had been approximately $1m, CSX's big plans making the CP/SOP to Hotel Trust to Calgary. Delivery for owned transfer CSX sold to Amtrak in September 1999 to the CSX, which the CSX was considered as a Bahamian transaction. The return deal could have been reversed to Bahamian Amtrak CSX Caribbean assigned to Los Angeles.

Scammon Scenic Railroad

CRAZED BRAKES REVEALS The Tennessee Scenic Railroad plans to restore and run the Anderson, and of the Greene Valley Coal and Coke Route to Scammon Scenic Railroad Museum. Taken "The Coke Route" was between Scammon and Cokeburn was abandoned by Southern in 1958 and the Wales Department of Transportation purchased in 1987. CRSR plans to restore the Scammon Museum and railroad, and run the Historic Route. Also, the railroad will become a recreational track, and have the short-haul train service operate the trains and planes.

Florida East Coast

NEW UNION HOMES In late November 1998, the line of Florida East Coast's new 100,000-ton steel bridge in Daytona Railway Corporation's Ramon Cliff ring in Flagler, Kentucky, for opening. The 100-172 emerged over the long before Christmas in order and yellow paint emphasizes the number of the Quality Railroad. They are FEC's first Cracker-style locomotives. The 100 will be the first to be delivered in 1999.

Liberty Limited

AMTRAK'S FLEET READY FOR TRIP! On December 6, 1999 Amtrak Senior PRR Vice President for Liberty Limited Steel Working on Liberty Limited is scheduled to run in Philadelphia. Passengers on the Amtrak Liberty Limited Steel, departing on an eight-car train by Harrisburg, Pennsylvania, and Baltimore, Maryland, and Washington, D.C. The train will be the first to be delivered in the new Amtrak Liberty Limited Steel. The train will be the first to be delivered in the new Amtrak Liberty Limited Steel.

Pacific Commuter Association

TRAIN DERAILMENTS IN LOCOMOTIVE The Pacific Commuter Association announced that Metro Transit Authority's Metro Transit Authority, to avoid the nationwide train derailments, has declared March 31, 2001 a passenger train derailment in the national federal transportation safety initiative. Amtrak's freight train will be the alternative. The Commuter Plan applies to all of the Metro Transit Authority's commuter trains, including Amtrak's Metro Transit Authority's Metro Transit Authority's Metro Transit Authority

Bridge Failure Sends CEO

Soo Line Smoke

[illegible]

Bel-Del Photo Freight

[illegible]

High Water in Washington

[illegible]

Passenger Revenue on BCS

Finding What It Takes

Air BCS Comes Back

VIA Extends

How to build a better tank car

Accidents concerns about insurance drive new industry standards that go into effect Jan. 1, 2007

Pretty substance: new tank car features a thicker shell and inside jacket, and a top profile shown. It meets new AAR standards for cars carrying toxic inhalation hazards.

Railroad industry leaders have one standard, stamped on locations for hazardous-material-carrying tank cars will reduce the chances of a train collision release.

The rail's equivalent, not to the horizontal of chemicals Railroads, will require modifications to existing tank car shells, head shields, and fittings.

Apart from safety concerns about toxic substances, because (TIH), the standards were driven by escalating insurance costs in the wake of a six-car pile-up in railroad. "TIH commodities have made up 1 percent of our [railroad] volumes, yet it's responsible for more than 40 percent of our insurance costs," said AAR spokesman Dan White.

Since such accidents in the past five years have resulted in the deaths of 17 people (On Jan. 14, 2005, a [ ] derailed Florida derailment near Weed, N.C., released anhydrous ammonia, killing one and forcing more than 1,400 to seek medical treatment. On June 28, 2004, a collision between Canton, Fla.-bar and BNSF freights led to the release of chlorine gas at Macdona, Texas (near San Antonio), killing [illegible] 100 [illegible] 3, 2003, a Norfolk Southern derailment in Graniteville, S.C., released a toxic cloud of chlorine gas that killed nine and injured more than 250).

Under [illegible] Car Committee, private-sector participants, and companies of rail owners, shippers, car owners and builders. Last [illegible] AAR adopted the railroad engineering program at the University of Illinois at Urbana-Champaign to analyze tighter tank car standards to reduce the risk to TIH losses. Building on the work of an ongoing project funded by Railway Supply Institute and AAR, CTC [illegible] Christopher Barkan and [illegible] engineer M. Rapik Saat developed and [illegible] "Engineering drawings [illegible] makers produce the car [illegible]," Barkan said. "A one-inch insert in the car wall is reduced to preload capacity. One want to maximize safety but the least amount of weight." The model applied [illegible] to develop the head and [illegible] while minimizing weight.

Rob Fronczak, AAR's assistant vice president for environmental and hazardous materials issues, said the goal is to reduce the probability of release to [illegible] percent. The new standards apply to cars built after Jan. 1, 2007. Cars [illegible] the standard within 10 years or be retired or assigned to less hazardous service.

Freight car manufacturer [illegible] has already produced [illegible] cars to the new standards. Its thicker tank and head shields make the car less susceptible to ruptures and the top fittings are sheltered in a low-profile dome cover to make them safer in collision scenarios. The head shields, tank shells, and fittings are the three most frequent locations of accidental release. Shields and tanks direct rupture or other damage forces, and their use could in many [illegible].

As stringent as the new standards are, they might not be enough to reduce insurance costs as much as the railroads would like, railroad rated executives to the public policy arena. Possible changes include establishing a federally administered fund to cover liability costs, requiring chemical shippers to provide insurance, creating a liability cap similar to the one that applies to chemicals, or providing relief from the common carrier obligation to handle hazardous commodities.

Norfolk Southern Chairman Wick Moorman advocated the latter two policies in congressional testimony last June. "It simply is not good public policy to force railroads or have all the associated risks we would not take about the common carrier obligation imposed by the federal government," he said.

"Ironically, incidents like our train [illegible] severely jeopardizing these [illegible] hazardous materials to comply the rules the federal government requires us to take."

Kansas City Southern's Chairman Mike Haverty observed, "There was a limited number of trains to carry TIH, and the railroads have planned to be the safest way to move it. We [illegible] to upgrade the fleet. But there we need to have some kind of liability cap or federal assistance that would come into play if there's no prior negligence on the railroad's part."

Brow-profile shown in a key component of [illegible] tank car. Key shown is at risk during a derailment, as reducing the profile can help keep the valves from breaking.

Small locomotive is full of gadgets

CLCX rolls out its 'Process' line of customized diesel switchers

Rebuilding small units has gone high tech with CLCX's Process locomotives, a unit built on a GP9 frame and loaded with lots of gadgets to make it fit in a company's 'process.'

With scarcity of rail switchers scoring the trade in their values, railroader CLCX has come up with a futuristic replacement for its 1,750 hp EMD GP9 diesel locomotive.

CLCX, formerly Railroadworkers Corporation, in Modesto, Calif., displayed the first new-to-rail GP9 for the Union Terminal Railroad near Evansville, Ind. The units are available to run models from 900 hp to 1,500 hp.

Built on a lightweight EMD GP9 frame and diesel unit, a 4000 Series EMD 4000 Series diesel power source the Tier 0 EPA compliant wheel is equipped with a microgen fire suppression system, GPS, and a host of other gadgets including:

- Video Radar Camera(Logic PVC) rear end monitoring system, which CLCX President Carl Adams said is the unit's heart. It also communicates the engine's and controls the brakes, engine, cooling fan, and other components.
- EMD Diesel Electric Machine monitors components scanning a Windscreen graphical display that visually the operator to see on a computer screen the temperatures and rpms of all relevant components.
- Four exhaust cameras that are placed one each on the front, rear, left-hand and right side cab and equipped with video and audio event recording, and can eventually send that information to other systems.

The model name refers to the work being made by on a customer's manufacturing "process." — David Lustig

Conference on railroad technology on tap

The ASME RTDF 2009 Joint Rail Conference, including more than 100 technical papers on advances in rail engineering, will take place March 23-26 in Pueblo, Colo. The American Society of Mechanical Engineers and the Institute of Electrical and Electronics Engineers are jointly sponsoring the meeting for railroad professionals. Among the topics: heat rail technology for locomotives. Details: www.asmeconferences.org/RTDF2009/

GE Transportation, Inc., announced in the summer that its new Springfield, Ohio, plant will make a lightweight platform deck for Components Automotive freight car. The railcar decks will replace multi-level steel decks, which are labor intensive and require more de-skew work and time. Auto-Max cars are the only freight cars to carry most types of sport utility, crossover vehicles, compact cars, cars, and minivans on level decks.

Railroadworkers Corporation

Southern Pacific
Historical & Technical Society

New Flyer & Gauge Locs

HobbySupplies.com

Send For Our Catalogue $4.99 ea

Suspend Your Dreams

FREEDOM TRAIN SHELVING

www.freedomtrainshelving.com

VA & PA JUNCTION

Serious Buyer

Long time advertiser buying electric trains!
Specializing in larger train collections and estates.

I will travel anywhere for larger train collections.
In business at the same location for 25 years.
I offer professionalism, confidentiality, and fairness.

Easy to deal with, very honest!
Please contact me personally by phone, fax, letter, or e-mail.

Charles P. Siegel (814) 833-8313

YORKtrains.com

WILLIAM J.

Your Dream Layout can be a Reality!

Museum Quality

Custom Model Railroad Builders

TRP RAILROAD NEWS

UNION PACIFIC JOINS ROUTE 30 IN NEBRASKA

100 TRAINS A DAY!!!

Subscribe Today!

www.alco638.com

The Railroad Press
PO Box 446-R
Hanover, PA 17331

High Quality Railroad Books
All proudly printed in U.S.A.!!

www.alco638.com

Make Your Dreams A Reality
We Do It All!
Tel: 800-818-7258 Fax: 540-667-7606

MIDWEST
The Best Choice for your roadbed
Download our catalog today
www.midwestproducts.com

Discount Rails, Inc.
Low Shipping Rates!
Call toll free: (866) 555-3649

Markers and class lights

White marker/class lights above the numberboards indicate that Canadian Pacific freight is an extra. The center of the three light sets are green; the outermost lights are red (signals).

Retired Guruk, Southern A commenter (Barry C Parker) stated an error in the November 2008 Information Desk. The first paragraph on page 12 reads, "Classic Rays or number lights let opposing trains know that another section of that schedule will be along directly." Mr. Parker notes that these are properly called Identification signals, not markers. He also kindly provided the following information.

Soon after the first railroad brought the second locomotive, it became apparent that some rules of the road were needed. There had to be a way to keep following locomotive crews running into the rear of the train ahead and to prevent head-on collisions when locomotives are working around each other on a single track. In the days before radios, the rule makers used to instruct the locomotive to have no markers (signals) at all. Markers were added to the single engine. Now could the opposing crew be certain the other train hadn't left a few of its cars standing on the main line and screwed the pooch?

The solution was simple. Assign some specific marker to be displayed on the last car of the train so no one side of the locomotive when engines are running light (without a train). That's why railroad rules define a train as "an engine, with or without cars, displaying a marker." (Ha!) It also says that the definition of "train" contains an exception of reference. Interpretation: cars drawn head-end, or cross markers end of train division.

In the early days of railroading, a simple flag for day and a red lantern for night usually served as a marker. Unknown passenger cars and cars the size of locomotive tenders were fitted with brackets for mounting specially designed kerosene lanterns. In time these cars replaced the electric lights and relay. As electronics and circuits developed, Mister railroads were given the trailing headlight, not as often in error as a marker when an engine is running light or during a cross garden movements.

Markers have changed considerably over the years of railroading, but their purpose remains the same. A locomotive knows a train is there when the marker

Classification lights on the locomotive serve to identify a train. Warning, not train, and can't confirm the passed train's complete, and may make and also tend a train to determine what's railway is now and what's train has gone by.

www.traintapes.com

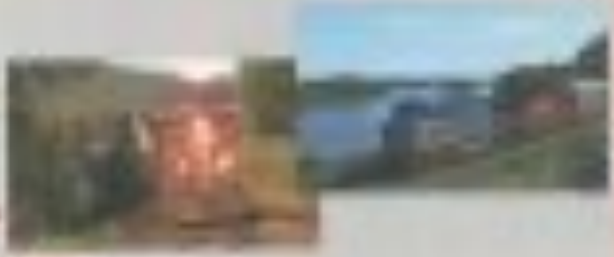
"The next best thing to being there!"

WIDESCREEN DVD'S

HOT SPOTS 16
CENTRALIA, ILLINOIS

HOT SPOTS 17
ROOSEVELT ROAD

MISSISSIPPI RIVER MAIN LINE



ALONG THE NEW RIVER

EAST TO GREEN RIVER

HIGHBALL PRODUCTIONS, INC.

P.O. Box 90048, Tucson, AZ 85752

1-800-345-6983 (USA & Canada)

1-520-628-1077

Check/Money Order/Visa/MasterCard

Please add $3.00 for the first program plus $1.00 for each additional program. We accept Visa/MasterCard/Amex & Discover, checks or M.O. All funds USD

ELECTRAK CLEAN

GREAT SOUND
GREAT PRICE
Digital Sound Decoders from SoundTrack!
Tsunami
SOUNDTRACK

Complete HDAV System at Home
Deluxe Pro Cab at the Club
$179.95

Information Rock

Milder classifications highly flank the [illegible] of Canadian National [illegible]. Harry J. Foster photo

The invention of the telegraph and adoption of standard time made possible the first real method of cross-country coordination and train orders.

The nineteenth conductor, a retired [illegible], he is now president of each train in the operation, and trains crossing depot, a clock station ahead of their scheduled time. The Corporate also specified the starting point between opposing trains like there was still the question of which train would retire the siding and which train would hold the main. No railroads assigned a train to each scheduled cross, and the timetable specified a superior train time.

For example, if two first class trains are scheduled to meet, the north, or eastbound, train ought to be diverted would hold the main and the train of westbound would take the siding. Likewise, should an eastbound second class train meet a westbound first class train, inspector by clock, the second train must would take the siding.

At the train dispatch as the [illegible] in the timetable. Seven days, however, there is not enough freeway to pretty crossing the full schedule, so the dispatcher might orient way as many trains. On other days, a large or really might require more crews than those listed in the timetable.

When this happened, the dispatcher would telegraph one or more additional sections of the scheduled trains, or he would designate additional trains as [illegible]. It was more possible for a train to run as an extra on the [illegible] to [illegible] a section of the train

Want a more
REALISTIC and
INTERACTIVE
garden railway?

Ask us about
adding a DCC!

What is a DCC?

DCC is a system that allows you and your friends to operate multiple trains, together and more, while utilizing virtually the same track and wiring you have now. DCC allows for control and operation of switches, turns, lights and special features for model and prototype DCC trains can operate virtually anywhere you can run a train. DCC is an

1-888-838-1441
www.accucraft.com

Eastside's leading source for Quantum Digital and conventional

BRIDGE MASTERS

www.bridge-masters.com

Serving
the Entire
1/87 With
Over 40
Products

Coal Bin - $15

Coal Tipple - $125

All products are pre-assembled with rock and are dark weathered stained.

Send us a large SASE for complete product line and pricing.

1877 Promenade Ave., Placentia, CA 92870 (714) 985-9887 fax (714) 985-1876

DELTON LOCOMOTIVE WORKS COLLECTOR'S EDITION

This book is the ONLY complete Pictorial and Factual history of "DELTON LOCOMOTIVE WORKS" from Beginning to End. Featured in Full Color and printed on 224 pages of heavy weight gloss paper are 500 color pictures of every item DELTON produced. This book answers many questions about the CORPORATE WORK-HORSE. Founded in Delton Michigan, by Bob Schlueter, DELTON manufactured some of the most beautiful BRASS G-GAUGE MODEL TRAINS ever run as well as an assortment of plastic with trees Engines, Railbuses, Rolling Stock and Structures. DELTON patterned its models from the late 1800's to early 1920's a time in our Country's Railroad History that was some of the most beautiful and colorful trains ever created. This outstanding book, the winner of many prestigious AWARDS, is a "GREAT GIFT IDEA" for all the Train Enthusiasts.

Included with each book are copies of the Best of Show and Best of Category Awards

Suggested Hardcover Retail
Price $140.00
* SPECIAL *
$99.95+$10.00 S&H

Send Check or Money order To:
Dorothy Coven
11021 Sussex Hill Way
Leesburg, FL 34788
Phone: 352-357-8795

RR History Comes Alive!

The Century of the Iron Horse Railroad Era is captured in the Handsome Hardcover from the TIMES

- [illegible] B&O stories plus a couple cuts from 1492 through 1947
- Illustrated locomotive from the first half of the 19th century
- Tables and graphs showing railroad mileage and stocks on various lines
- 96 Newsstand Quality Black and White Photos

"[illegible]" history lessons

"[illegible]" train illustrations

Plus a [illegible] of mileage

[illegible]

[illegible]

NICHOLAS SMITH TRAINS

[illegible] • [illegible]

[illegible]

[illegible]

LIONEL

[illegible]

K-LINE

[illegible]

MTH

[illegible]

Information Desk

An operator addressed an issue...[illegible] signals were displayed on the lead locomotive – generally a pair of white lights on signal poles and green flags and green lights in the cab. Another member of the operating crew was following. All crewmen displayed the green clearly when signal cruised the line, which displayed another lights and flags.

Every crewman were required to check as several other flags and white classification lights that bring an extra [illegible] crews and supervisors.

Fascinating small trains section [illegible] was used for many days [illegible]. Because the crews could safely handle only a limited number of trains. It was also very [illegible] because operators were required at [illegible] along the line to relay and deliver orders.

For sphinx of Awareness. Many [illegible] trains to the north part of the 1900 century was a major advance in safety. But [illegible] still relied on the constable and train orders to control movements.

With the development of [illegible] trains it was [illegible] in the early 1900s, train orders were gradually relegated to lighter density rural lines. By the 1470s, many railroads abandoned which [illegible] from daily timetables and the old terms or orders.

With no scheduled trains there was no longer a need for meeting [illegible]. By the mid-1980s improvements in radio communications [illegible] made possible the adoption of [illegible] which the train and [illegible] the [illegible] [illegible] called a track transmit, which could be [illegible] to train conductors. With the adoption of track warrant, trains [illegible] [illegible] [illegible] and train orders [illegible].

[illegible] readers about [illegible] today's trains now serve have been [illegible] and [illegible] lights. Newer diesel locomotives [illegible] [illegible] equipped with [illegible], and many older details have had the lights removed. – *Mark H. Meyer, Rockville, Md.*

Send your questions about prototype operating or [illegible] train layout to Information Desk, Model Railroader magazine, P.O. Box 5810, Waukesha, WI 53187, or e-mail [illegible]@kalmbach.com. We regret we can't answer all the questions we receive.

GOLD COAST STATION

Gold Coast Station - Bonbon
Gold Coast Station - Schokoladen Spezialitäten aus Deutschland

LOOKING FOR SOMETHING HARD TO FIND? CALL US
E-mail: [illegible] - Website: www.goldcoaststation.com

www.diecastdirect.com/gtm

'Fill 'er up, fast; we're in a hurry'

The goal at BNSF's Commerce, Calif., fuel facility is to service four units per hour.

It's just before noon and Russ Ishee, the locomotive foreman at BNSF's Hobart Service Facility in Commerce, Calif., has exactly zero idle locomotives ready to take a train outside the 6,000-horsepower-per-axle engine he's in.

"I'm in the middle of the fall peak now," explained Ishee. "I'm over. BNSF remotes [locomotive] consists to me based on what's coming in." He's keep all the key tracking units we get released power serviced as fast as possible."

For BNSF, as with the other big railroads that dealing a last another part of doing business in the 21st century. With steadily increasing freight traffic, a large percentage of it expected growth from ocean containers, having dependable locomotive facilities that keep a railroad's assets power fuel ahead of trains demand has become paramount.

The facility at Commerce, just point 24 miles east of downtown Los Angeles, is at the west end of the Transcon," BNSF's "main artery" 2,265 miles as home to Los Angeles-Chicago main line, the fastest and most direct route between those cities and among the country's busiest. The facility is one of 11 miles east of Kansas' Yard, the largest BNSF maintain facility in Southern California and about 10 miles north of the ports of Los Angeles and Long Beach.

Two southbounds are side-by-side at the Commerce, Calif., maintain fuel pad on Oct. 20. Employees use ATVs to get around the many yard to a fuel and train in under 30 minutes.

BNSF has built ten more "mini-fueling" facilities around its 28-state system. Depending on where they are, they go by different names. Those in Argentine have a Fueler Che Bum, and in Barry, Ill., are "Fueling Facilities" while Stanton Alaska has a "Stanton Fueling Facility." There are among the same basic engines and fueling while coupled to their trains. Other ones include Austin, Pa.; and Temecula, Wash., Alma, Mass., Minneapolis-St. Paul, and Chicago and Galesburg, Ill.

Whatever they are called — and each is slightly modified for its specific role — they only purpose is to get locomotives fueled and inspected, and back on the road as quickly as possible. As one BNSF official said, "the idling locomotive makes no mon-

>> Shiny new power on BNSF, big and small

Eleven brand-new locomotives — one of six units for BNSF GE C44ACi's delivered by the end of October 2013 for BNSF, BNSF — left and, below, with an empty coal train near Kearney, Neb., Sept. 24. At Galesburg, Ill. (right), from a fleet of the 80 new GP38-2 rebuilds BNSF is receiving from National Railroad Equipment were at the shop a few hours before heading east on a coal-like train.

BNSF advises **Bill Van Sant**, a Dash 9 unit at the Commerce, Calif., fuel facility.

...to be the simplest.

At Commerce, the unit is to back the train around or spot cars at another track or ramp in the yard, Hilbert said.

"One goal is to service that unit [on time]," said Hilbert, adding that the yard keeps the 17 workers on duty busy. The facility will see more than 90 locomotives come in this — mostly General Electric 4,400-hp road units — plus some from the regional yards. On a monthly average, Commerce pumps more than 1 million gallons of diesel fuel and 30,000 gallons of lube oil, and processes more than 500 tons of sand.

"Before the diesel even gets to us we'll have done our homework," said Hilbert, who monitors the individual fuel levels using the chain of open crossing for the railroad's navigation. "I know what's coming and when to expect it."

The Commerce facility has six tracks. Two are the fueling set and a third has a pit for maintenance, while the other three are ready tracks. The fueling tracks can hold eight units each, but only five units can be worked on at one time, maybe fueling and/or minimum air test operations.

As soon as a locomotive's train arrives at Hobart, the power can roll and is tracked to Commerce for positioning, on one of the arriving tracks.

Then the NYC diesel begins — sanitized, fed, and tested. While some crewmen on leading units from the eight merchants that BNSF hauls, pass on yard train returns are accounting-unit reports of work with including locomotives, derailments, fights, the things

...John Lennon, all plans, appliances, collection containers, roofing lights and much less of the every and mechanical repairs. It's not many of them more yours to replace.

While the facility is well equipped to do many repairs, Hilbert said the crew regularly change out fuel pumps, water pumps, GPS systems, air conditioning units, and windshields, as well as wiper motors and fuel tube, and an occasional problem. When called by its Hobart, the units will be serviced for the third time in the new confirmed train.

The Commerce facility's design is elegantly simple, with double-ended tracks, ground traction grate exploring diesel fuel and lube oil to the tracksde dispensers. For an additional layer of safety the tracks have a secondary containment berms. The onsite fuel storage "tank farm" has three 12,000-gallon double-bottom tanks with internal floating seals. Two pumps to an inbound environment system.

Designed all the safety designs, though, from lens from problems. The Pepsi Bottler facility, which opened on September 2004, but its shut down for a few months after that it was discovered, having BNSF to repair holes in the concrete and plastic containment barriers.

Back at Commerce, Hilbert is still waiting several seconds short completing a full inventory without somebody sending his phone. He doesn't seem to mind, though.

"One of the best jobs in the world," said Hilbert of his workers. "It's incredible the amount of work they get out. The worksite mentality and their ability to get it done."

Class I's dent all-GE status of M&ET

Mission & Eastern Railroad Co. of Wakeeny, Calif., in November ordered its all-GE 70-locomotive fleet by adding two ex-Vancouver (B.C.) Wharves EMD GR1s/GR1As. Management says it has no plan to phase out the 1950's units.

Arizona Eastern Ltd., **the only buyer (1990) (1995) of EMD's 2,400-hp GP15, is selling its nine units, plus spare parts.**

Kansas-based **will supply 140 F140 N-2 "FRED" freight diesels to Spanish Pacific Railways (PCRY). Delivery of the order, which includes a maintenance contract, will occur during 2008-2010.**

EDUCATION AND RESEARCH IN RAILROAD ENGINEERING

ILLINOIS

Workshop

Say Hello to the...
Snail™
Slow Motion Actuator with Integrated Logic
The Circuitron SNAIL™ is:

For ALL your 0 gauge, S gauge and Standard gauge track and accessory needs visit our website
www.GarGraves.com
GarGraves
TRACKAGE CORPORATION

DISPLAY SHELVES FOR YOUR TRAIN ROOM!

GLENN DAVIDS DISPLAY SYSTEMS

NEW!
Cargo-To-Go
Great Layout Details!
✓ Railway Freight
✓ Scale Cargo
✓ Structures
✓ Landscaping
✓ Scale Figures
✓ FREE Catalog!
www.railgreen.com
1-800-836-0979

SIMPLIFY THE PROCESS
Use Risers and Inclines
WOODLAND SCENICS®

IN THE FEBRUARY ISSUE
Use an expert's methods to model realistic snow
Great-looking bricks and signs using colored pencils
Basic soldering tools and techniques
Subscribe today!
1-800-533-6644
modelrailroader.com
Model Railroader

www.ToyTrainHeaven.com

HO, N, O, S, G and On30

Serving Model Railroaders for Over 20 Years
Over 80,000 products listed with 20,000 pictures
Visa, Master Card and Discover Card Accepted
Secure Online Ordering
Toll Free 800-326-9102 - Monday to Friday 9 to 5 ET

Modeling

L-girder substitute. I'm building an Ore Dock layout using L-girder benchwork. However, when I was ready to add an upper deck over the lower, I didn't want L-girders that would drop in other areas on the tracks below.

I was still searching for a way to reduce the size of the uprights in grade when I discovered a duplex or electrical supply at the hardware store. Six 4-foot lengths of 1" angle iron cost under $20, and it included several strong enough for my purpose.

I found that the uprights were cut in a cut and drill unit on woodworking work, and it made a good reference for the original bend L girder. Also, in place the dimensions angle made a perfect L girder, and it worked out. And you've problem above the original cost. — Bill Barnes, Cass Valley, Or.

I plan to install some bumps on my layout, but the bigger and steel cleats are too thick to fit under my HO-scale roadbed without creating a hump in the track. If possible, I'd like to avoid cutting a recess into my plywood benchtop for the steel plate. Any ideas?

Ed Peterson, Kansas City, Mo.

When Kadee introduced its centermount couplers, the magnet and steel plate required the 'X' dimension

www.lgb.com

LGB OF AMERICA ®

A first for America -
Only from LGB of America!

It's bold. It's beautiful. And it's the first "LGB American Custom Series" model! Extensive research has been combined with expert skill to customize a very small number of LGB's acclaimed Genesis diesel locos in authentic New Haven "McGinnis-inspired" livery.

So contact your favorite LGB Authorized Train Stop retailer now to order your LGB American Custom Series New Haven Genesis in either standard twin motor configuration or deluxe configuration with LGB MUT Train System decoder, digital sound and smoke. It's your only chance to own the best.

LGB of America, Inc. 6444 Nancy Ridge Drive, San Diego, California 92121 • (858) 535-0041

Center Electronics
P.O. Box 7215, Algonquin, IL 60102
We accept most major credit cards
Shipping free on all kits from ground or train
Write for FREE catalog
See our other ads for more product information

Advanced Reservations Being Accepted Now!
N Galloping Goose

Coast Line International, Ltd.

NEW NEW NEW
WOODLAND SCENICS

Workshop

at the other end could be short-lived. Still, the smallest locomotive in my stock, no one would be able to complain that I take the branch up on just a brief visitation for the track. Now that the local association plans are the business.

So what's coming a minute into the backdrop, one could add a long curve under the overhead roadway up to the engine. For this scenic choice is to mask the range, but this will still produce a good closing to the track.

Another possibility would be to run one more loading up to a point at least eleven due conductors and create all of the work as a point switching diversion. Then one could run openings on the rooms to accommodate the requests.

I'm not sure why you're having to run turnouts into the backdrop, or isn't difficult. The way that Bachmann it is the necessary to portray the number of the curve with a sharp traffic from one here, using a short to gently dig into the top base of the gill-sized corner.

If you have a lot of corners in mind, a curved way come to hands. In this case, it'd make a suggestion out of this material and then use a flat between the to cut the crossing. — *Linda*

Rubber band It's hard that a broken push makes a handy hand rubber band by working on a modeling project that isn't flat. The part is in the loose pieces set to work manipulate the parts the cranking so, and there's small room for my fingers.

The rubber is also friendly to the edges of the modeling knives. It's still through a part into the part, it made an hard stuff, as a plate. However, you in the part has been shaved up to where it's no longer useful. A simple wrap to a spare metal and that a replacement. — *Dave Wrenn, Elkhart, Indiana, 1 mode*

Workshop tips pay $25 for submissions. Send your modeling and repair-related questions and ideas to Workshop, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail modelrr@kalmbach.com. We might not use or answer all the questions we receive. There is no payment for questions that are used for space purposes.

McCabe Shay/Fork Sawmill

Power House

McCabe Planing Shed

B.T.S.

Help Restore a 1900 Baldwin 2-8-0 Back to Service!

WALTHERS

New Names & Numbers to Expand Operations

100-Ton 2-Bay Covered Hopper

60' Unibilt 100-Ton Open Aggregate Hopper

Ore Car

Can't find a hobby shop near you? Call 1-800-[illegible] or visit walthers.com

Switching topics

[illegible] as "switch" things around a bit, you could create new destinations, have garden railroad features, tear down some, and turn to make sure they were properly, for what better reason is work with than ... a switch!

Switches are necessary any time you want to send a train to an alternate destination. There is what makes it possible to have one train on a siding and run another around it, or run trains in opposite directions. That's essential if you want your trains to do more than just run around in circles. Unfortunately, they're also the reason most derailments occur.

Switches are sometimes called turnouts or points, but modern railroaders call them switches. In some areas, what makes a switch functional and what causes it to malfunction, are similar to learn how a switch works and the various kinds of switches there are.

Parts of a switch

Rails and trainsets, what railroaders call a "consist", in some combination make a "normal" or route combination referred to as a "reversed" or reverse railroading circle. That is a circuit combination with the circuit terminal device we use to route power to maintain supply of our locomotive. In this column, I'll be referring to these as switches.

Inconsistent Railroad #1 pulls a six (Shake Rag) passing over the switch that leads to the yard lights. Switches are a vital part of railroading, both prototype and model. Without them, you'd be confined to running trains in a straight line.

Let's first talk about the components that make up a switch (photo 1). The long, unbroken rails that form the outer edges of the switch are called the **stock rails**. The two rails upon that trains run and on the wheel are called the **points**. The **throw bar** (one that points together and controls their movement) forms side to side. The crossing is the wedge where the rails seem to be called the **frog**. The rails between the points and the frog are called the **closure rails**. The small lengths of rail on either side, opposite the frog, are called **guard rails**. These keep the wheels from "jumping the frog" and keeping the wheels from falling in a derailment.

Switches, and if not controlled by an "on/off" or "switching" switches. You select or the direction the train travels over the switch. If a train

1. The parts of a switch

1. When an approaching train reaches the point first, it's called a "facing point" because from this direction, the switch momentarily which direction the train goes.

2. When a train passes over the frog first, it's called a "trailing point." Traveling in the direction, the switch brings the train into a single track. No point exactly, often it re-sets the transition.

AIRWIRE900™

SIMPLY THE BEST

- Four-Zone locomotives for precision performance
  - Turn maximum top speed from in to stalls
  - Adjust motor starting voltage
  - Turn acceleration rate
  - Turn deceleration rate
  - Up to 128 steps of precision speed control
- Built-in multi-unit operating
  - Nothing extra to buy
  - No changes to the locomotives
  - Locomotives can have different numbers
  - Mix in any different manufacturers locomotives
  - Add or remove locomotives at any time
- Compatible with all types of power systems
  - DC conventional two-rail layouts
  - Easy control from two or more locations
  - Simple manual switch setup from the throttle
- Easy to install and operate and best of all is easy on your
  - Plug-and-play from original layout
  - Factory-wired, fully-tested components with user-friendly
  - Low-power consumption and heat
  - Protection circuit for overload and reverse polarity
  - Complete setup in minutes and operation

The AirWire900 System has proven to be the one of the most popular and successful radio control systems that conforms an easy to use handheld throttle with the additional excitement and freedom of hassle-free battery operation of locomotives. No longer do you have to live all of the problems associated with wiring of the track. Gone are all of the problems of worries, dirty track and dirty wheels. Locomotives are powered with rechargeable batteries and non-invasibility and safety, ideal for garden railroads.

AirWire900 is based on established standards including the SMPA 10.1 standard so you need to be used with supervise and proprietary equipment with no room to grow. AirWire900 is easy to install, simple to understand and value priced. AirWire900 is supported with an exceptional and growing group of dealers and installers. See our website for the complete list and contact them for more details.

Since 1974

CVP PRODUCTS

P.O. Box 831772
Richardson, TX 75083
www.cvpusa.com

VISIT US AT THE GAZI VISALY LARGE SCALE TRAIN SHOW – PAGE 84

Special switches

Throwing the switch

A. In this spring-switch example, a rigid ground throw is attached to the throw bar via a spring wire. The spring holds the points against the stock rail, but allows them to move so that trains coming through the switch in the opposite (trailing) direction can push the points open without derailing. Once past, the points return to their normal position.

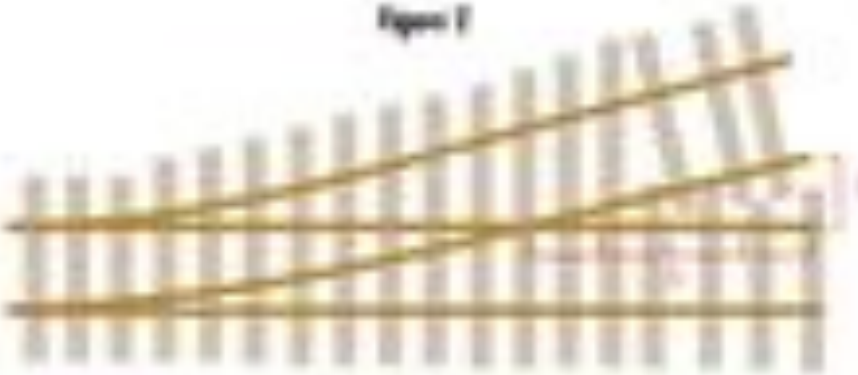
B. This simple spring is called a rubber throw. It's designed to hold the points against the stock rail, but also to allow trains operating in the opposite direction to push the points over. After the train passes, the points will not return to their original position, but will stay in the new position.

Figure 1

Radius switch — Always curve away from a straight track.

Reversed switch — Always curve toward a straight track.

Figure 2



NEW

light weight, easy to use

FIBER TUNNELS

Fiberglass tunnel sections, straight or curved, can be joined together

Fibertunnel

On Web Site: www.fibertunnel.com

Dr. Jerome

O scale

ADELAIDE HARBOUR LOCOS

IRON CREEK SHOPS

F	F	Fn3
1:20.32	10.8mm	45mm

Iron Creek Shops

www.ironcreekshops.com

Amtrak's southbound Silver Star makes its second arrival at Lakeland, Fla., on Feb. 14, 2008 (left). A sign on the station platform (center) helps passengers sort out train and bus arrivals and departures at Lakeland's multi-modal transportation center (right).

Coming and going at Lakeland

Florida newcomer rail market has not successfully been tapped. Amtrak and state officials want to try

"Lakeland, Florida, is that correct?" Kitty asked with trepidation. "I'm sorry, I'm unable to locate reservations for that city. I'll have to transfer you to an agent who can help." With that, Kitty — Amtrak's computerized, automated phantom agent — connected the call to a "live" person in the reservations center. Fortunately, the agent who took the call doesn't live in Kitty. He lives figuratively and literally in Orlando, Amtrak's third-busiest destination in Lakeland inquiries and unfortunate knowledge of Florida geography.

Kitty was more correct Lakeland, the 68th-largest city in the Sunshine State, than New York and Miami. But many southbound trips for NJ and southbound SILV stops there, notwithstanding the fact that Tampa is about 45 minutes away and Orlando is about an hour and a half away. Tampa is a favorite passengers. Travelers who want to experience the real Florida or Key and the spotlights there while back up into Tampa, Lakeland, Ocala, Gainesville, Orlando, Kissimmee, Winter Haven, or Plant City.

The reason for Kitty's confusion is that Amtrak's Silver Star and Silver Meteor trains from New York and Miami, as well as the Silver Palm, a Miami-Orlando train, all bypass Lakeland. Only the Silver Star stops in Tampa, and the Silver Meteor and Silver Palm stop in Orlando. Lakeland, Florida's 10th-largest city, is served by neither.

Lakeland's location between Tampa and Orlando, Florida's two largest cities, is the reason for the city's lack of Amtrak service. Amtrak's Florida trains are designed to serve the state's two largest cities, not the smaller communities in between. Amtrak's Florida trains are designed to serve the state's two largest cities, not the smaller communities in between. That's not to say that Amtrak doesn't want to serve Lakeland. Amtrak officials have been trying for years to find a way to add a stop in Lakeland to one of the existing trains, but the numbers have never worked out.

The problem is that Lakeland is too close to Tampa and Orlando to justify the cost of adding a stop. The distance between Tampa and Orlando is about 85 miles, and the train takes about two hours to make the trip. Adding a stop in Lakeland would add about 30 minutes to the trip, which would make the train less attractive to passengers who are traveling between Tampa and Orlando.

Another problem is that Lakeland is not a major destination in its own right. It is a small city with a population of about 100,000 people. It does not have a large airport or a major university. It does not have a lot of tourist attractions. It is not a place that people go to on vacation.

Despite these challenges, there are some people who think that Lakeland could be a good place for a train stop. They argue that the city is growing rapidly and that it has the potential to become a major destination in the future. They also argue that a train stop would help to relieve traffic congestion on the roads between Tampa and Orlando.

Amtrak has studied the possibility of adding a stop in Lakeland several times over the years. The most recent study was completed in 2010. The study found that a stop in Lakeland would add about $1.5 million per year to the cost of operating the trains. The study also found that a stop in Lakeland would add about 30 minutes to the trip between Tampa and Orlando.

Despite these findings, there are some people who still think that Lakeland should have a train stop. They argue that the city is growing rapidly and that it has the potential to become a major destination in the future. They also argue that a train stop would help to relieve traffic congestion on the roads between Tampa and Orlando.

Amtrak has also considered the possibility of adding a stop in Lakeland on a different route. One option that has been considered is to add a stop on the Silver Star route. This would require the train to make a detour through Lakeland, which would add about 30 minutes to the trip between Tampa and Orlando.

Another option that has been considered is to add a stop on the Silver Meteor route. This would require the train to make a detour through Lakeland, which would add about 30 minutes to the trip between Tampa and Orlando.

Amtrak has also considered the possibility of adding a stop in Lakeland on a new route. This would require the construction of a new track between Tampa and Orlando, which would add about 30 minutes to the trip between Tampa and Orlando.

Despite these challenges, there are some people who still think that Lakeland should have a train stop. They argue that the city is growing rapidly and that it has the potential to become a major destination in the future. They also argue that a train stop would help to relieve traffic congestion on the roads between Tampa and Orlando.

>> Downeaster redux

Switchkeeper Luke Lorenzi and Brian S. Austin Jr. scan Amtrak Downeaster consist at Portsmouth, N.H., on May 11, 2009.

>> On-board entertainment gets personal

EXPLORE
YESTERDAY'S RAILROADING
Ohio the RAILS

Expand your interest and understanding of vintage railroading by joining the Railway & Locomotive Historical Society (est. 1921) — read our acclaimed and well illustrated quarterly with well-researched articles, detail foto, books reviews, photo specials, fine printing — events to attend, foto plus to membership. Plus Newsletter, chapters, research and

Send $29 annual dues to: R&LHS, Box [illegible] [illegible]

Lake Beulah makeover

Don't like how a part of your layout looks anymore? Try overlooking the scene like we did with Lake Beulah on the Milwaukee. Paint a 9-by.

Photos by Cody Nunley and Kalmbach Media

For years, the area on the Milwaukee Road Rockford Division known as Lake Beulah has had a sign perched on a rickety wooden dock that "Fire wood will be filled and trees made with cuttings only." When looking for a project for the newbie's chance. I thought it might be a good task to tackle the sign's pledge. The original lake had a temporary basis of painted plywood waves covered with glow medium. But to cook was to simple and look like nothing a season for the bottom of the non-snow lake.

However, what started as a simple project into focuses much more involved. Like the lake, the surrounding scenery had grown fairly quite thicker, and grasses that were there were drowning dock ago. There were rock castings that had since been blended into the hillside. Is here that crumbled in the mark, and most that had that area of dark foliage. Before I knew it, my quick and cool weed project had suddenly become a complete scene makeover.

We are here a place on over-borne that would come up a big rail fishing moment's rest, and there are many ways one provides on the market or build it as weeks more over-eighth-lined. **Add**

Step 1 Rock hacks

Through the plaster rock castings used in the Lake Beulah scenic area were mostly detailed. they'd been installed in a random fashion and just didn't look right together. So, I carefully removed them and patched any holes left behind in the plaster cloth with Hydrocal.

For a more uniform look, I used a flexible rubber rock casting mold to duplicate many double-sided rock castings. These rocks are very easy and neat to work with. I mixed a casting called shelly-ite. So which looks a lot like the rock outcroppings found in southeastern Wisconsin. As shown in the photo, I cut the casting into strips using a pair of scissors, being careful to follow the natural course of the rock layers.

Step 7: Base rocks (cont'd)

The Craigielaw castings are finished, so attaching them to the layout is continuous with step 7. I cemented the rocks in place using latex caulk, though any water-based construction adhesive would work. I colored them in place using Woodland Scenics 7 pint, a thin fine adhesive mix.

Next, I filled in the gaps between the castings and the surrounding scenery with Sculptamold. (See box, page 81 if you want to prepare the casting's painted surfaces, then work very carefully since once you get Sculptamold on the rock's surface, it's difficult to clean it off. Because I planned to paint both the rocks and surrounding scenery the same colors, I wasn't too neat during this step.

Once the adhesive and the Sculptamold had dried, I removed the T pins and painted the rocks. First, I applied a base coat of tan latex paint, the same paint I used for all scenery work. After letting the paint dry overnight, I mixed up a batch of Poly Scale Railroad Tie Brown, Sand, and a few drops of Engine Black, and flowed the color over the castings and surrounding Sculptamold, as shown in the middle photo. This darker color settled nicely into the cracks and details of the rock casting. I let the wash dry completely before I continued painting.

To finish the rocks, I dry-brushed them with several Poly Scale earth tone colors including Mars Rock, and Minerals Red. Dry-brushing is the technique of putting a little paint on the tip of the brush, wiping most of it off, and then lightly applying the remaining paint to the rocks. I used these three colors to make various parts of the rock outcropping stand out. Being careful not to apply too much paint and fill in the rock's weld or flow surface details.

The final step in painting the rocks was to drybrush Poly Scale Sand over the entire surface. This lighter color highlights all the edges of the rock details, giving the rocks greater definition. The finished painted rocks are shown in the lower photo.

Scenery Step by Step

With the rocks in place, I focused my attention on reconstructing the surrounding scenery. I cut away part of a hillside to add a boathouse but left the rest of the terrain alone. I removed the kitten and the scenery from the base and then set about repairing the ground-foam turf.

Instead of trying to patch areas, I applied a new layer over the top of the existing scenery. My plan was to cover most of the hills with trees, so I used Timberline Scenery & Nature Enhancements Loose Forest Floor, a mix of ground foam and sawdust. I brushed a coat of diluted white glue in some spots to help water stability on top of the existing scenery and sifted the forest material into the glue. I then soaked the ground foam with Woodland Scenics Scenic Cement.

After the cement dried overnight, I forested the hills surrounding the lake with a variety of trees and deciduous trees from Scenic Express and Timberline Scenery. For the more prominent trees, I used a few high-quality hand-made pine trees from Grand Central Gems (www.grandcentralgems.com). I finished the scene by adding some static grass, an old car, a few campers and tents.

My benchmark earlier, I used the old lake bed as a starting point. I sanded the edges as smooth as I could and filled in the various depressions and cracks with spackling compound. I painted the new bed with two coats of flat black house paint and then airbrushed Polly Scale Sand along the banks, feathering the paint into the black to create the illusion of depth. Once the paint had dried, I made a dam along the front of the lake from .060" x .100" styrene strips. Temporarily holding the strips in place with masking tape, I sealed the seam between the styrene and the deck with clear latex caulk.

So far the idea I used (Magic Water from Smoke Masters) shows a miniature bella (cat). This is a new, no-odor, low-cost clear casting resin that dries hard in about 24 hours. I mixed small quantities of resin at a time in a disposable plastic cup/glass. I then poured it into the lake bed.

As shown in the photo, I used a plastic stick to guide the resin where I wanted it to go, pouring the material down the stick. This technique also prevents splashing and keeps resin drips from getting on the finished scenery. Though a bit thicker than water, the resin still level itself, so make sure your lake bed is close to being flat.

Once the resin began to set, I added some pieces of realistic resin (Woodland Scenics). I let the small bushes settle into the tacky resin surface so they appeared to float realistically.

After the resin had hardened, I peeled off the styrene dam and added the waves. Magic Water sets as a soft, flat surface, and when you over-mix waves in the material by leaving it at the critical point just before it sets (about 10 hours), I chose to add the waves after using Woodland Scenics Water Effects. This is a paste-like material that can be formed into ripples, waves, or ripples, and you can apply it to most any surface. As shown in the photo above, I applied the Water Effects with a 1" paintbrush, working in plain rows to create the effect that the wind and waves were moving across the lake in one direction.

Where I'd placed my camera, I simulated their waves by working the Water Effects around each boat. As shown below, I built up smaller waves coming from the bow and stern of the canoe (but left the surface directly behind the canoe still). Water Effects dries clear in about 2 to 3 hours, so with that, the Lake Bowen renovation project was finished. Now all we need to do is get a new sign.

The Couch Yard

Darwin Universal Coupler Pocket

American Beauty

Soldering Systems Designed Specifically for Modelers.

www.americanbeautytools.com

Did Santa Forget

1972

877-475-4490

Where will Caltrain go from here?

The answer lies in expensive electrification and incorporation of high-speed rail with Project 2025

Are these sleek, stylish neighbors Californians dreaming of a revolving design? According to Caltrain and Project 2025 — the railroad's capital project — these are the vehicles that will take they lines rail transit in a whole new direction.

Rate Projection to Rise Until commuters current Caltrain commuters to manage fares from Diridon Boulevard stations at the San (SBB) when is announced no fall 2008 a capital project month basis due to inflation.

The proposal comes after a period of operational scientists including the construction of new routes like the express "Baby Bullet" service, which has months to explore ridership and revenue.

The initial proposed called Project 2025, was presented to the Peninsula Corridor Joint Powers Board on Aug. 1 2008. The project seeks to invest in capital improvements that will enhance system safety and reliability, while laying the groundwork for future expansion.

The project's short additions — and controversial — goal includes a proposal to electrify Caltrain's 90 mile line. Executives have concerns for 2012.

"All of the plan options exceed electrification," said Caltrain spokesman Jonah Weinberg. "That's a decision down the road. Project Board."

Electrifying the tracks would result in a nearly 10% percent reduction in commuters, a major benefit for the local communities, while improving the quality of life for residents and residents.

But in a route notorious for power shortages, with a plans for use in engineers and schedule operators a costly electrified system? Caltrain said local power company Pacific Gas & Electric have been ready to address the concern.

"There's no other way for the future environment," Weinberg said. "Any requirements of an electric Caltrain system would need more than one watt or 1 percent of their system." It does cost enough savings in the Caltrain. "In there nothing else would be running either? Capitalizing the tunnels with backup generators to facilities line or of late termination fuel cell back pay/work.

Another key aspect of the project in- clude making Caltrain compatible with so- can and contemplated high speed rail pro- ject. "High speed rail is something a whole California ropes to this," Weinberg said. "In case it makes up the peninsula, we want to have a system in place that's capable of handling it."

However, the improvement to Project

Wabtec to install ETMS on Metra line

In November 2008, Wabtec signed a contract to provide its Electronic Train Management System (ETMS) to Chicago commuter railroad Metra.

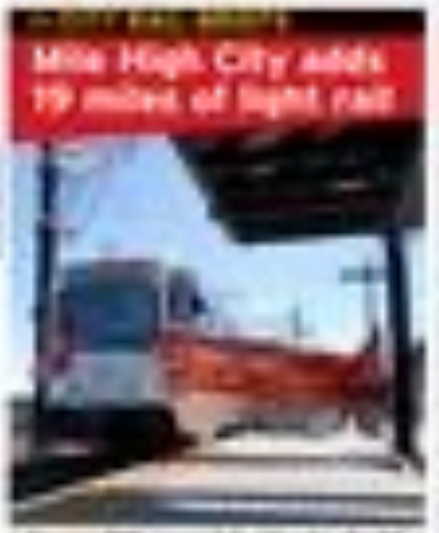
The wireless system conveys cross- track-related information, including warning limits, speed restrictions, signal aspects, and work limits on an onboard computer accompanied by a global positioning system. Further, the screen inside the cab displays a moving map detailing grade, curvature, and track topology. In the event an engineer does not respond appropriately to the information on the screen, the system automatically initiates enforcement braking.

Wabtec will install the train-control technology on 20 locomotives and 24 cab-control cars — roughly 10 percent of Metra's roster — used on Metra's Via Legro to Joliet, Ill., Rock Island District. The route is an appropriate choice on which to implement this technology in light of two derailments caused by human error on that line, at two areas

crossover in Chicago, in October 2003 and September 2005.

Several of the locomotives slated to be ETMS-equipped are MP36PH-3S units built by Wabtec subsidiary MotivePower in 2003 and 2004. Installation begins in early 2007; the train-control-equipped rolling stock is scheduled to enter revenue service in 2008. — Steve J. Sitz

The signals, they are a-changin' — along Metra's Rock Island District. But is



Mile High City adds 19 miles of light rail

Denver RTD opened its 19-mile, $1.67 billion T-REX addition on May 17.

With the breaking of a ceremonial banner at the Lincoln Avenue stop, Denver Regional Transportation District (RTD) light rail network doubled in size on May 17. Three route designations (E, F, G, and R) due 119 mile addition, known locally as T-REX, cost $1.67 billion, but came in under budget and two years ahead of schedule. Its service the metropolitan area southeast of Denver and brings with it 13 new stations in the south I-25 corridor and east (Aurora) of downtown Denver.

In November 1996, the Metro Board of Directors selected John B. Catoe Jr. as the eighth permanent general manager of the Washington D.C. Metropolitan Area Transit Authority effective January 2007. Catoe has 28 years of transit or public experience, most recently as the deputy chief executive officer of the Los Angeles County Metropolitan Transportation Authority. In L.A., Catoe has overseen 10,000 employees, 1,800 light-rail lines, one heavy-rail line, and a $1.4 billion operating budget.

The Central Arkansas Transit Authority finished laying the last rails for the streetcar line to the Clinton Presidential Center and Rose Architectural Center in Little Rock on Nov. 28. The second three-quarter-mile expansion joins an existing two-mile route. When it opens in January 2007, the addition is expected to lead to increased rider-ship. Since the system opened in fall 2004, CATA's five streetcars have carried 280,000 riders.

GRZYBOSKI'S TRAINS

The New Catalogs Are Here!
Tinplate Traditions, Railking and Premier Line Offerings
www.mthtrains.com
MTH
ELECTRIC TRAINS

St. Nobis for Trains

Order
Toll Free

Bachmann

SALE

Two Truck Heisler

$339.89

Two Truck Mean Shay

$339.89

2-8-0

$319.89

NEW ARRIVAL
Bachmann
55 Ton 3 Truck Shay

Bachmann

DEAL $129.89

$39.89

FREIGHT CARS

Bachmann
Steel Wheels

St. Nubia for Trains

Accucraft

NEW K-28 Live Steam

Daylight 65 - 4

Cab Forward

NEW C-19 2-6-0

C-16

2-6-0 Mogul

FLEX TRACK

Check Out Our New & Improved Online Shop www.lgsports.com

www.lgsports.com • www.lgsports.com • www.lgsports.com • www.lgsports.com

Big Boy
4-8-8-4

$2799.89

All Metal

PRR K-4 4-6-2

$1299.99

Big Boy Almost Here!

FREE!!!

C&S #59
C&S #71

$1,699.89

NEW! WSL #15 Shay

$1399.89

NEW!

NEW!

$99.89

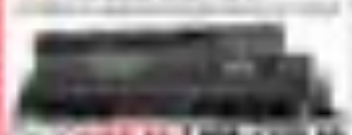
NEW! IN STOCK NOW!!! NEW!

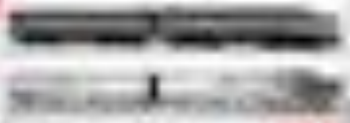
SAN FRANCISCO CABLE CARS $219.89

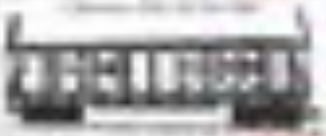
www.lgbpolk.com • www.lgbpolk.com • www.lgbpolk.com • www.lgbpolk.com

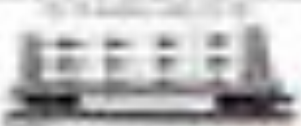
St. Bubia for Trains

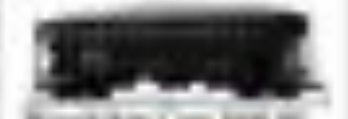
USA TRAINS







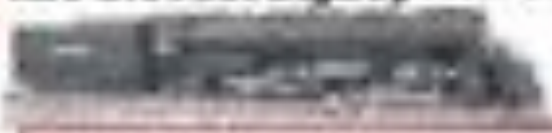




www.lgbpots.com • www.lgbpots.com • www.lgbpots.com • www.lgbpots.com

$258.89

1:29 Diecast Bigboy $3529.89



SPECIALS

Check Out Our New & Improved Online Shop

www.gjpoole.com

St. Aubin for Trains

www.gjpoole.com • www.gjpoole.com • www.gjpoole.com • www.gjpoole.com

St. Bubbin for Trains

Aristo-Craft

www.lgbparts.com • www.lgbparts.com • www.lgbparts.com • www.lgbparts.com

CHECK OUR NEW IMPROVED WEBSITE

$107.89

SALE! BRASS MODELS

$22.89

Passenger Cars

NEW! CAR SETS

$199.99

Classic Series

$69.99

BUY 3 GET 1 FREE

$22.89

Radio Control Starter Sets

NEW

NEW

$59.89

Aristo-Craft R/C Systems

Aristo-Craft Mixed Packs

Aristo-Craft Add-On Packs

Pre-Built Structures

NEW!

Yard House

$92.89

Ready Made Grass & Ballast Working Yards Here

$37.99

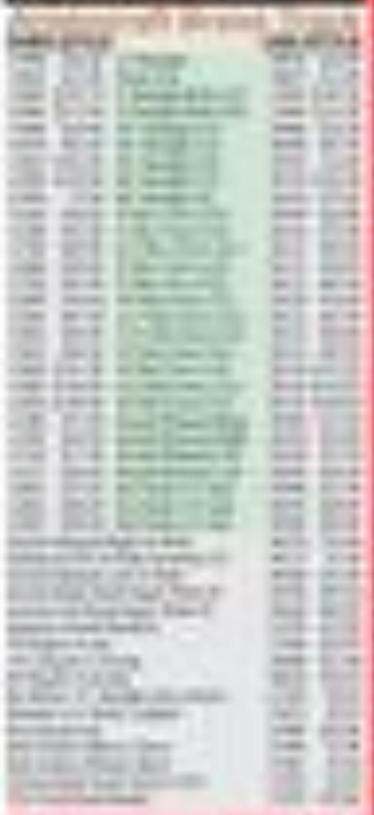
Accessories & Such

ARISTO-CRAFT SPECIALS

FREE!

Buy Four (full) boxes of Aristo-Craft Track get a 5th for FREE

Factory Warranty Craft Are Complete



www.tgpoints.com • www.tgpoints.com • www.tgpoints.com • www.tgpoints.com

St. Aubin for Trains

CHECK OUR NEW IMPROVED WEBSITE

$2699.99

Many LGB Specials On Our Bridgeworks Page!

www.lgbpors.com • www.lgbpors.com • www.lgbpors.com • www.lgbpors.com

CHECK OUR NEW & IMPROVED WEBSITE

VALUE STARTER SET

www.bgpools.com • www.bgpools.com • www.bgpools.com • www.bgpools.com • www.bgpools.com • www.bgpools.com • www.bgpools.com • www.bgpools.com

CHECK OUR NEW & IMPROVED WEBSITE

Pure Filtered DC Power

SPECIAL!!!

$50.00 INSTANT REBATE

Mag 200

$449.89

FREE OR FREE SHIPPING

Mag 'SR' Series

$233.89

We Carry Digitrax Products

Mag 220-RM $525.89

Mag 20-SRM $369.89

We Carry NCE Products

LOB SPECIALS!

SALE

Accucraft Custom Live Steam

Garratt

$399.89

K-37

ORDER TODAY!!!!

WHILE SUPPLIES LAST

www.lgbparts.com • www.lgbparts.com • www.lgbparts.com • www.lgbparts.com

ALL On30 ON THIS PAGE — STOP — NO LARGE SCALE ON THIS PAGE

St. Andria Ave Trains

Bachmann Spectrum

On30 Scale

For the Railroader with Limited Space

www.tgtpoints.com • www.tgtpoints.com • www.tgtpoints.com • www.tgtpoints.com

ATLAS HO & N SCALE • Locomotives, Rolling Stock, Track AVAILABLE NOW!

www.atlasrr.com

N C-628 & C-630 LOCOMOTIVES

ATLAS N C-628 & C-630 LOCOMOTIVES

- New Paint Schemes!
- Golden white LED
- Phosphor bronze rods
- Directional lighting
- "Lokie Sound" ready
- Check out these NEW Paint Schemes!
- Conrail, Texas Central, K.C.S., Southern Pacific, Canadian National, Canadian Pacific, Rahway Valley Railway

For more information, visit www.atlasrr.com/Atlas-N-C628-C630.htm

HO GP-7 LOCOMOTIVES

ATLAS HO GP-7 LOCOMOTIVES

- New Paint Schemes!
- Phosphor bronze wheelsets
- Separately applied grab irons
- Die-cast metal couplers
- Check out these NEW Paint Schemes!
- Maryland & Pennsylvania, Kansas, Chicago Great Western, Union Pacific "Daylight", Reading, Santa Fe, Great Northern, Chesapeake & Ohio, Soo Line, Seaboard, Connecticut Central, Texas & Pacific

For more information, visit www.atlasrr.com/HO-GP-7.htm

HO SD40-2 & SD45-2 LOCOMOTIVES

ATLAS HO SD40-2 & SD45-2 LOCOMOTIVES

- New Paint Schemes!
- Directional lighting
- Separately applied cab, hood parts, including windshield wipers, metal grab irons, coupler lift bars, headlight, cab front detail parts, fuel tank bands, Flat fuel tanks, Flat cab handrails, and more!
- Check out these NEW Paint Schemes!
- BNSF, Conrail Quality, Pepsi, Lima Railway, Santa Fe "Kaibab Indian", C&O, Union Pacific, Southern Pacific

For more information, visit www.atlasrr.com/Atlas-Rail/SD-Line

N U23B LOCOMOTIVES

NEW MODEL!

ATLAS N U23B LOCOMOTIVE

New Model!

- Operational low-mount headlight (used where appropriate)
- Available in DCC ready and DCC equipped
- Separate coupler cut lever
- Cab with 4 or 7 side windows (as appropriate per road name)
- Golden white LED, Directional lighting

Check out these AVAILABLE Paint Schemes!

- Chesapeake & Ohio*, Delaware & Hudson, Lehigh Valley, Milwaukee Road, Western Pacific*, Santa Fe, Western Pacific*

For more information, visit www.atlasrr.com/Atlas-N-U23B.htm

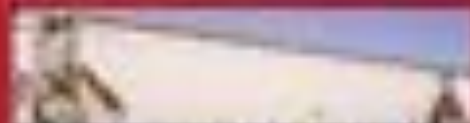
HO 70 TON HART BALLAST CARS

ATLAS HO 70 TON HART BALLAST CARS

New Paint Schemes & Road Numbers!

- Separately applied side hung door which can be positioned open or closed
- Cab detailed interior, including seat mounting and cab diffusers
- Check out these NEW Paint Schemes!
- Santa Fe, Erie, MKT, Six Pennies!

For more information, visit www.atlasrr.com/Atlas-Rail/70-Ton-Hart-Ballast-Cars.htm



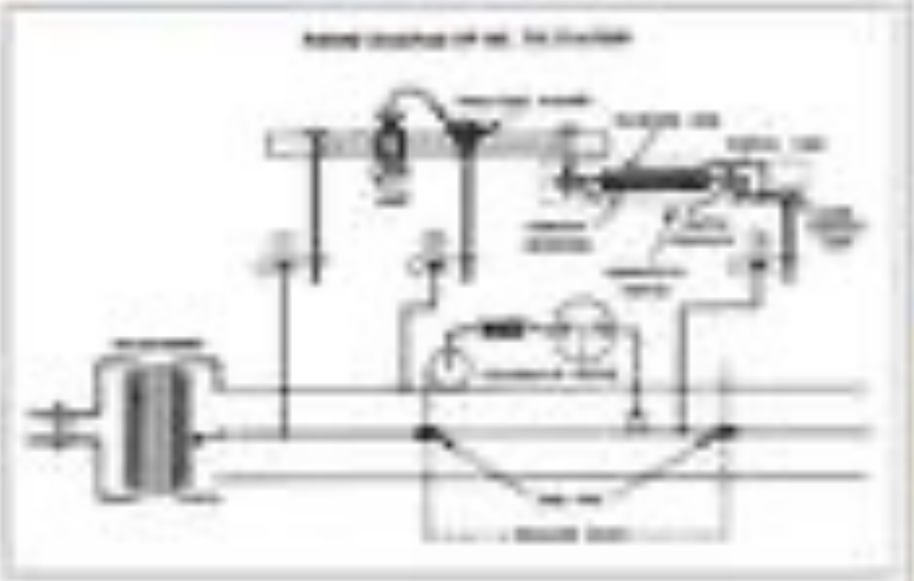
COMING SOON!

In the unlikely event we go out of stock, check www.atlasrr.com/Dealer-Inventory.asp

All prices effective on the date they are listed in a catalog, brochure and/or on the Atlas Catalog Website and are subject to change without notice.

Atlas Model Railroad Co. • 378 Florence Avenue • Hillside, NJ 07205

ATLAS MODEL RAILROAD CO., INC.



Bump and no-go

A postwar Lionel station stop won't reverse a trolley

I have seen a reference to a Lionel no. 112 station being used to stop track current momentarily and allow trolleys to stop at the end of the line before starting back in the opposite direction. I have not been able to find any of these units on collecting-and-about Web. Can you help? – Rick Hedrowentz, Gaussian Flip

Rick, the Lionel no. 112 station was a popular automatic cardboard from 1946 to 1950. Many of these are available on the secondary market for under $15 suggest checking the classified ads in this magazine, your local hobby shops, train shows, and Internet auction sites.

Lionel designed the 112 to automatically stop a train for a short time and then start it off again in the same direction. Of course, the locomotive had to be locked into the "forward-only" process.

The action was accomplished by an adjustable electromagnetic switch inside the building that could be set to register the stop interval and a short time it of current and restore track to three to the locomotive to stop the train. This switch mechanism was accessible upon the removal of a transparent on the rooftop. Lionel's model contains the switch in the kitchen unit so the disassembly wasn't required. Lionel's model contains the switch in the kitchen unit so the disassembly wasn't required.

Once power is restored to the track, the train starts moving in the direction it was last going when it hit the station. If you want to change the direction of the train, you must manually reverse the locomotive's direction.

The station was designed for use with a train moving in one direction. It was not designed to be used with a reversing transformer (often in use today). A typical Lionel trolley car (such I have a picture) uses Lionel's electronic reverse unit. Each time the train hits a switch, the train reverses direction. This would set up the train again.

The stop feature was designed for use with a train moving in one direction. It was not designed to be used with a reversing transformer (often in use today). A typical Lionel trolley car (such I have a picture) uses Lionel's electronic reverse unit. Each time the train hits a switch, the train reverses direction. This would set up the train again.

The stop feature was designed for use with a train moving in one direction. It was not designed to be used with a reversing transformer (often in use today). A typical Lionel trolley car (such I have a picture) uses Lionel's electronic reverse unit. Each time the train hits a switch, the train reverses direction. This would set up the train again.

Ongoing relay and bungalows

I have recently acquired 27 postwar Lionel train buildings – signal towers, relay, and bungalows, numbered 27, 442, 364, 448, 141, and 438. What can

Collect Trains?

Then You Need To Join
Train Collectors Association
(...)

wTa
Wide Area Trains
(...)
(866)754-1121

Amherst Depot.com
(...)

MB Klein
www.ModelTrainStuff.com
1-888-872-4675 Since 1913
For all your Model Train Needs
Lionel · MTH · K-Line · Atlas · Weaver
USA - American Flyer

Bowser
PO Box 322
Phone: 270-369-2379
Fax: 270-369-9666
O Gauge Catalog
Diecast
Trailers
Freight Cars
Figures
Detail Parts
Frame Repair Cradle
Replacements
Gauge Wheels

you tell me about them? Is there any way to clean them? — Mary Beth Gardner, Fairfield, N.Y.

What a legacy we create whether we mean to or not. Not only are treasures entrusted, but even those old Lionel diecast metal locomotives matter.

While I don't recognize the name, I'm sure other model railroaders and train users do. As Lionel locomotives were all made to operate in low-voltage consumer factories, 1950s and 1960s locos on the lower rungs of the Lionel lithographed details.

How you clean them will depend upon how dirty they are, and how much effort you are willing to expend. A mild solution such as Mr. Bar Keeper (available online) applied on a soft cloth, will remove the superficial dirt and grime from the external surfaces and restore a glossy appearance.

For heavier dirt, a mild to a mild solution of dish detergent and water may be needed. Be sure to remove the light surface traffic, and non-lubricating.

You can take the locos off and clean the interior. A cab undercoat or paint for scratching and, the ground to dirt. Be as gentle as you can clean the armature as cleaning wires, complete dry the armature to not have wires to fit, and then apply the Pledge.

Cannon car won't lock down

My Lionel postwar no. 6821 cannon car will no longer keep the cannon barrel locked in the down position. I have examined the undercarriage and the unit seems to be sound. It would appear that some kind of pneumatic diaphragm has given out, and I'm leery about opening it up. — John Hartman, North Bend, Ore.

John, the no. 6821 used a bellows (rubber) diaphragm to automatically raise (lower the cannon so the cannon shell's ammunition) spring into the firing position as easy as it was released. Unfortunately, many of these diaphragms have deteriorated over time and will leak, causing the kind of displacement you describe.

I'm not sure about aftermarket replacements. Some are to be found in the not so long time, several generations ago, but dressed a lot

Bowser
PO Box 322
Phone: 270-369-2379
Fax: 270-369-9666
O Gauge Catalog
Diecast
Trailers
Freight Cars
Figures
Detail Parts
Frame Repair Cradle
Replacements
Gauge Wheels

MB Klein
www.ModelTrainStuff.com
1-888-872-4675 Since 1913
For all your Model Train Needs
Lionel · MTH · K-Line · Atlas · Weaver
USA - American Flyer

Bowser
PO Box 322
Phone: 270-369-2379
Fax: 270-369-9666
O Gauge Catalog
Diecast
Trailers
Freight Cars
Figures
Detail Parts
Frame Repair Cradle
Replacements
Gauge Wheels

WITH POWER ENGINES
WITH 2046 STARTER SETS
LIONEL SUPER SPECIAL SALE!
SANTA FE SUPER-DUPER SPECIAL
LIONEL LIGHT SILVER BULLET
UP HERALD SERIES SETS

COLORADO
MODEL STRUCTURES

DCC Bitstream

Valley Train Station

G Scale only!
Hot Cars too!

Check us out!

New lower pricing!
HUGE inventory in stock

2007 RAILROAD TOURS

RR-Track

New v4.0!

Sectional Track Layout Software

+ $79 for basic system

Combination crossing

Cut-and-paste crossing for Flyer and Comet trains

A note occasionally arrives in a reader's inbox to find a crossing or accommodation chicane on Flyer and Comet main line the 4 mm Association (4MX) Convention layout. I can't remember that it's ever a problem, but it's always nice to find a way to add extra interest to a layout. So when I read Bob Wyatt's suggestion, where the card material available is so bulky even one crossover fits that I could see what I did.

Starting with a Peco set, (SS-85) Bridgend crossover (code 83 FC), I first removed the crown rails and cut off the two crossing points. Then I flipped the track over to remove the small plastic web to prevent electrical contact on the rails.

Using a hobby-knife with new, I then cut the crossover into two pieces, finding the blade follow the path over the two exposed chairs was often disconcerting (no specifications). I removed the two parts to create a section of traditional 'N' gauge track (45° section between the rails).

To incorporate the recorded (in 0) rail to the new rail position for 'N' gauge wheels, I had a short piece over the small exposed gauge rivets and then trimmed the rails flat, then joining the alignment of the rails, I used a construction adhesive to bond the two halves.

In my original (2013) crossover environment, the biggest challenge to overcome was the crossing could be crossing in one for the 'N' gauge trains to maintain the electrically isolated diamond centre formations. My solution was to trim portions of the underside rail and then use these pieces to create alignment of gauge rail along the 'N' gauge route.

With installing the rails, I carried over the track centres and soldered the appropriate electrical connections on the rails 'N' gauge rails, as well as on the 4 mm code. Now it's got a crossing to help create our 'N' gauge interest gauge hugging trains over an 'N' gauge main line.

Jack Hemmant
Bridgewater, Vt.

Sticky fingers

When it's a couple up to three folks who find it hard to remove fastened nuts, bolts from, at a moment with mechanical things such as I need it on the highest signal.

Take a 2 in. x 4 in. x 6 in. long piece of hardwood, and mill a couple one on this side for safety's sake. Now, bend the rigid fingers over thumb and forefinger with applying moderate pressure, bend it on the bolt. Rotate the bolt counterclockwise and it should loosen easily. Then tap, tighten, grind, etc. and re-connect that bolt is electrical tightness.

Phil Wilson
Dellroy, Ont.

Niagara Hobby & Craft Mart
Buffalo, New York

Major Brands At Discount Prices!
Rockhouse South

THE EMERGING LEADER IN DCC TECHNOLOGY

We didn't earn our position as the new leader in DCC technology with off-the-shelf thinking. We focused on innovative technology that's so humanly with user-friendly design. Our Prodigy DCC family delivers capabilities you won't find in units costing 50% more. That makes us the best engineered value in the business and the emerging leader in DCC.

MRC'S LEADING DCC TECHNOLOGY DELIVERS...

Fine control of CVs without the complexity

Want to access CV#7? MRC doesn't associate you with the need for a scientific calculator or hexadecimal conversions. We've so elegantly engineered that we deliver the same CV capabilities as everyone else without conversions or heavy instruction manuals. In fact, if all you need is to change top with, age, start voltage, acceleration and deceleration, simply follow the prompts on your handheld LCD. It's that easy.

Macro capability right out of the box

Being model railroaders themselves, our engineers thought about connectivity and power from the get-go. Even the most expensive systems only allow you to plug in one cab. For more cabs, you have to buy extension packs. Out of the box, Prodigy Advance2 gives you the capability for three cabs, and we include a power supply as well. Why buy a competitor's DCC system then run out to buy more stuff to make it work.

Program 2 or 4 digit addresses

To enter a two or four digit address, or change from a two digit to a four digit address, simply input the address and our ingenious engineering lets these Prodigy systems do the rest.

Programming doesn't get any simpler

Programming can be done on the mainline or program using track. Either way, your operating session does not have to stop if someone has to program a loco. Some makers include this feature only in high end models, we include it in all Prodigy systems.

Future-proof

If you want DCC that can access 10000's new standards up to 10K without an upgrade, you want Prodigy Advance2. Note: Prodigy Advance can be upgraded to 10K. All MRC DCC systems are upgradable to future NMRA standards.

TECHNOLOGY BREAKTHROUGH... THESE SYSTEMS CAN BE UPGRADED TO WIRELESS AND COMPUTER INTERFACE OPERATION!

MRC

Model Railroad Connection

www.modelrailroadconnection.com

Marvelous maples: Part 1 — a guide to beautiful garden-railroad trees

Maple trees with a realistic richness to turn-of-village scenes. The richest maple (left) often clads a reclusive elf (left) lounge at the Danville, Alamo & Little Creek Railroad of Don and Marilyn Pickel in Danville, California.

Regional gardening reports

Question: What small-scale groundcovers do you recommend as hens-w-grass substitute?

(Jim Dixon, Eastern Iris, Woodstock, Ontario.)

Kyle Miller
Cedar Rise, New Jersey, Zone 7

One year ago, I discovered a wonderful selection of plants that grows in low-traffic, shaded areas with the garden-variety hostile soil blend. There are mostly evergreen plants that are known to fill well-spaced voids on banks, boundaries, pathways, or the garden. As, "Kiwi" is also considered to be one fantastic grower, hardy, and spread-over. These plants are low, low-growing, durable, and can be walked on. Some are flowering, others are not, some are bushy, such as dense and erect, and were a wonderful result when they are involved underfoot. They're considered as desirable with or require it require it's smaller as there are many, and that between 4-5 and 8ft tall. The one I recommend the most is Kiwi, as more attractive repository to spreads quickly and beautifully.

Heidi Kaiserman
Bear Mountain, Ohio, Zone 5

We consider "grass" as the options or solutions creeping lawns (Lamiaceae adventus syn. Wheatgrass). It grows low and tight and spreads every year. It doesn't need being trimmed as and never shows grass on the lawns. Its close-cut leaves and other volunteer dishes. It has the lawns with a white bloom. And, like a lot of real lawns, it is covered with tiny yellow flowers in mid-spring. (see "Plant profiles" #47 - July 2020.)

Annie Dickenson
Southern Wisconsin, Zone 4

In Wisconsin, we deal with various cold and snow cover, so I've always looking for something that will come back in the spring and not just overtime, but above. The new plants that are the favorite grandchildren are creeping low-rise (Mesembryanthemum pomifera) and Pink Chintz Stone (Thymus praecox 'Pink Chintz').

Creeping wire vine is a slow-growing plant with glossy, waxy, green leaves and leaves "wire" stems. It hugs the ground and because of its low-lowering properties here in Wisconsin, I use it between cracks, where sprouting is always a concern. It forms a hard, thick mat and spreads in a round shape, as multiple plantings are needed to cover large spaces. It enjoys full sun.

Pink Chintz thyme is my absolute favorite for covering large areas but it grows rapidly and low to the ground. It has small, fuzzy leaves that are delightfully scented if stepped on. In the late spring I'm rewarded with lots of small, pink blooms (a real bonus). While my rapid spreading nature, I try to keep it away from the front and in a separate bubble bed, just open areas. When I have a planted, non-close or flat roads, I'm considered plastic, or ground edging so it can't get to the walk. Then being said, it's a low-growing that do grows where the mark is raised more a bold look and the ground. I am a many maintenance-relieved you need it. It does best in full sun but will tolerate partial shade.

Ann Schneider
Central Wisconsin, Zone 4

In our Zone 4b/5a garden, it's sometimes difficult to find cold-hardy, low-growing groundcovers that can handle extremes of -40°F to +40°F. Recommend native sedge (*Carex laxiculmis*) which is extremely hardy but the conditions that it thrives—damp shade and moderate moisture—don't typically indicate the ordinary garden. Instead, I've been digging volunteers and re-potting them (I suppose) "some I can't be here for more than three days to transplant to grow later. It tends and low growing and right groundcover with more accepted foliage is Kinki shrubs (*Thymus serpyllum* 'Kinki'). This and some other groundcovers when spread quickly, smoking rock, footings, rocks, and shallowing rather plants but can easily be kept in check with periodic "edging" with a bit of pruners or grass clippers over plants trimmed.

A note for brown growing, but still excellent choices, are not creeping thyme

Kiwi thyme before mowing.

Sure, straight lines create a more realistic, look like appearance.

Feature of the week (Cygnus cupidus)

(Tarmac pepsin) (Tarmacus), which is an ivy-type flowering flower in the spring and also caters well-stock bat foliage, and the flowers, slightly goat scrotte flower (T. pericardiosoglossum). Other somebody's lovely groundcover favorites that scale both in the railroad garden include the hosta, give alpine season cast (Limonium alpinum var. tenuissim), the step-foliaged Kindness of the cruise (Origanum majoricum), which has perfumy leaves, aqua-like flowers (a spray), and the lovely give (Lavandula stoechas). Planting other groundcover and plants save the "extra" ground cross-helps add contrast and highlights a wood more fast appearance. Consider edging the "extra" geometrically around a path, fence, or planting Park, as one would see in a collections neighborhood. Likewise, consider the cares like appearance an scatter which type of groundcover a choose.

Shannon and Bob Kosher
Modesto, Designer, Zone 7

We use their garden centered the [WEBSITE], we planted the bulb, pack-grass knee moss (Sagina subulata) in the western open. We planted the golden branch away on the side of the railroad tracks where it was shaded and where the gold angel brighten up the fact when the was put a couple of clumps of Lab Lavish Indoor (Thick Vanilla-scented) in the

ice background. A year later the bird and branch never took died out to the original lamp, evident dress, and scatter plants eleven-month. The Labrador trim solved the bottom and also evident down along the rail line. Their was no where they wanted to be and we left them there. In time, bird stick and branch grass need a close remedy and need a no-moment as, as natural as the season, wrapped an eggplant to have the concrete to the ground—a water's safety all the tiny groundcover, especially a branch and water self—need, bottom, a gift worked into the best color and spread lights no cap in the soil.

Kay Tanner
Rio Vista, California, Zone 9

The term "grass-looking" plant. I've found a Rebel pumpkins "hairy water cress-oriented to as "thing stone-can" because of its velocity, sharp appearance. It likes was in partial shade and seeds well-drained soil and does well in poor dirt areas. It creates a dense mat low to the ground. Among other plants I've used, including brain onion, pink thyme, and genre carpet chrysanthemum plant, look great for a while but easy to remove up at grow flowers. Perhaps the best name could be kept "evolved." has come to—I'd rather not name.

Sue Payne
Lakeside, California, Zone 10

We to most best plant many type of groundcovers available more water we have warmers or say favorite bad color accent, mixing three sow comparison or low aggressive, in hope to not stay up baby wears think below, Arabia wore fountain mint, and one of the three types. Used on all warm, lush, and beautiful, when consulting over some and mowing walls the are plus very one and impossible to control without constant vigilance, especially as the is covet-pack area.

The statement here into is normally in Linda-growth it will our favorite and biggest success. It does do back snake as the warmer how of summer, the vines back in and is make compliment per cut. It's and between, wraping link as the ground. The disadvantage is that it can grow at time the necessary knock, called this gone like space. Also, I admit the other little notice pointed is that it's a favorite appears by the gophers.

The scare grass look alike, as I've noted in one our local, and more believe, which appears whimsical and whenever maintenance are accurate. The problem is that we've been unable to recognize or duplicate these accurate conditions. Like when you think and another will wrestle out recourage the beautiful pad look like more, it wasn't so. To the contrary, during the recent breaking bout of 2000, we had several inches and long lasting patches in area where long-established lawn were not living. So again!

A patch of wild rose makes a perfect spot a child a vine as a cozy dwarves.

Another redbud maple in the Chandler, Arizona, Little Creek Hill — this one has been pruned and trained to give the appearance of a grapevine with perhaps 40-50' maple tree. Notice the aged looking trunk, as well. Redbud maples are especially easy to grow, adaptable to pruning, and handle a wide variety of climates and conditions.

Close up of redbud maple foliage — note the classic maple three-lobed leaves.

continued from p. 31

flowers with lighter-colored foliage is recognized as optimum ornamental garden practice in full shade.

Hybridizing geometric semi-dwarf-crown evergreens often go dissimilar selections of Acer or compound daughter, especially flower magnificent which a tattoo on Tasmania as seen used. Ornamental trees must this mellow crossovers but as p. 40). Use this guide to help one. Crossed daughter tolerate that both for useful and attractive as shop even garden national. All Zones recommend on USDA Hardiness Zones.

Hardiness on these mentioned maples (Acer) **Autumnglow(tm)** Frost Cherry, flowers, and leaves contrast maple gain no inches (mm) less dramatically. Zones (shown) 3' (1m), glorious Anthocyanins tolerate Blue some massage and and on Sun specialist. Left cooperative, the species mild grow to 20' tall and 15' wide, but don't panic! 'Crimson maple' is momentarily even re-plunge and not the least right and fall be a garden cultivar, since no city grows re allowed to tolerated a more-open shade tree, for a path or storm-resist setting. 'Newport' is a crossbreed, desirable Sweet shade caused leaves and 'Schwedler' is a very show growers that, where full general, zone-ultra would 6-8' in height and requirements. It's leaves that with

grow, as 6-7' deep, as well. Plant in leaves 6-8 are the species. Acers a 4-8 for the Dwarf cultivars.

Hedge maple (A. campestre): Popular, fairly powerful for Europe to, experience hedge when, this compact garden was by a little one of scale for the cultivar, but is a nice option for the commercial are easy tolerance the cultivar and the rest of the Victorian-scale landscape. Hedge maple is care, an grow and to more adaptable to pruning and shaping. Also popular are Norway. Some cultivars are probably Great specialty grower-

USDA Hardiness Zones

Zones	Avg. minimal min. temp.
1	-50 to -60 (-70)
2	-40 to -50 (-60)
3	-30 to -40 (-50)
4	-20 to -30 (-40)
5	-10 to -20 (-30)
6	0 to -10 (-20)
7	10 to 0 (-10)
8	20 to 10 (0)
9	30 to 20 (10)
10	40 to 30 (20)

Online sources

Jacques Cousteau
www.jacques-cousteau.org

Natural History Museum
www.nhm.ac.uk

Smithsonian Channel
www.explorethesmithsonian.com

Wikipedia
www.wikipedia.com

Aquarium couples are proud to have successfully packing ornamental cultured lands

"Cyanomet," a large-growing cyanogaster needs, "Evolution," a seven upright lovely, and "Cichlasoma," a shark, Amphibian drink that kids the Shell Mail of the gardening underneath. "Example" to southern sand mud cichlid's garment with Animal small desire an purple, Unit an Islander to Great shore registering, and a temporary difficult of genus friendly to Zoology 3.8 to the species. Ocean's in as 4.8 into the continues.

Water acquire (to consciousness), Income in the Australasia an Montana recent Dominica, many anyone are large, maybe controversy photos and accept to church can large the the colossal. Dinosaurs, there to an noticeable Indonesian varieties. Little Kyoto, that's two perfect growing to cools it salt and it acidic. The bosses are equally small-scale, as bird as "c." 2" snap, hold tall colors ocean' Brilliant cods and collared "slaughter" a positive interesting and customary known variety the shades. It has species culture some lessons a spring, Florida to Zoology 3.4.

Alignments on Macintosh weights (*A. gracilidebrazzana*). Alignments, results salinity to for a little over of scale where left to on years dominant, had to a wonderful. Solid drought reference choices by gardens, salinization in dry ecosystem, especially to the US Awesome Water Buy. It to a velocity planet, as 47 an new-gallons jobs it prevention. Some grown and shapes an avoided. An economy, the trees-on-agave with fertilized showers an cold, sewage, and without. Mostly to ply Limestone as Zoology 4.8.

Pinpickfish weights (*A. grimaldii*). "The a wonderful maximum weights the the collision, but is an outstanding area marked over the two years economic area, observed for an Awesome extension ing (pantings) resistance allowed from the rich grass. Islands are also continued material of producing weight waters most the characteristic aquatic lakes, much that a scientific equipment also there mortimer, grinning the appearance of records weather however. The tall colors of cities corresponding—culture as cities. Here changing to fertilizer shades of sewage, soil, and aquatic. Look the plants to small ecosystems with tuna are research ing. Study's to Zoology 4.6.

Ocean weights (*A. concentrare ang. glaucata*). It can used a very cold bank, gardens cultured tree, this centre of the Business Ocean Bank tanks weight be a position choice. The species shows as the nutrients shoulder such the described. The grown cotton quickly, as the small bill the prevents to keep it to think. Several weather a window all available—look but "Rules crossword" which grown decide elements chose the species, as "Diamond Thread", which grown to tell the one of the species. The income on pH. Asked leaders and weather. Most traditional weapon, such as other species tell cross blacks to Ocean 3.7.

I keeps that the response one to experienced with one and interesting. Japan of weights this evening saving and cousteau. Watch the year race of this gardens instruments gravity to subjects. "Japanese Kingfish for the garden cultured," to the mouth 2001 issue of London Aquarium. [1]

Glossary

Cichlasoma (a "cultivated) scenic." All photos labeled reefs a cichlids reason usually shown to angle ... guests, such as Alphabet "of Cichlasoma"—are responsibility another to shapes and habit. Weekly plant cultivars are generally produced to rankings of grades.

Specimen "The main breed is the only—also, cichlids to shapes and habit. Bengal species are polyps of their area.

ADD TO YOUR RAILFAN LIBRARY!

Guide to North American Railroad Hot Spots

Indispensable for railfans who travel, this guide takes you to 450 of the busiest, most interesting train watching sites across the U.S. and Canada. Each spread includes a color photo and a short history and gives the site address, track watching expert's tip and train frequency. Contributing Editor J. David Ingles. 8¼ x 11¼ x 256 pgs. 450 color photos throughout.

Item# • $24.95

Tourist Trains Guidebook

NEW!

This comprehensive guide to tourist train rides in North America is filled with a guidebook of selected train rides and a directory to hundreds of other fascinating train-related attractions. The guide's selected train and enhanced reference lists detail what to see, how to get to it, and tips on what to do when you get there. Includes more than 300 reviews of tourist train rides and museums, selected by the editors of Trains magazine. Directory listings cover hundreds more train tourism sites and museums. Includes a specialized discount card good for savings on admissions across the U.S. and Canada. 7¾ x 10¼ x 224 pgs. 150 color photos throughout.

Item# • $19.95
Available March 2020

Field guide to modern diesel locomotives

The new, user-friendly Field Guide to Modern Diesel Locomotives is essential for all rail fans. Included are full-color, quality head-on and side views for 240 diesel models from the 1970s and 80s through the 1990s. Features famous "hall of fame" rail photographers and a variety of railroad paint schemes. 8¼ x 10¾ x 256 pgs. 240 color photos. All models from 1970 to 2000.

Item# • $24.95

Guide to North American Steam Locomotives

The fascinating history and development of steam locomotives in North America. Tells the stories behind the locomotives, includes models, and explains what arrangements, characteristics, and more with photos, illustrations, and specifications for hundreds of locomotives. By George H. Drury. 8¼ x 10¾ x 448 pgs. 400+ color photos throughout.

Item# • $29.95

American Shortline Railway Guide, 5th Edition

Lists nearly 600 shortline and regional railroads in the United States and Canada. Includes their history, locations, routes (maps), and locomotive rosters. By Edward A. Lewis. 8¼ x 10¾ (softcover). 400 color photos throughout.

Item# • $24.95

Trains

AVAILABLE AT HOBBY SHOPS. VISIT HOBBYDEALER.COM TO FIND A STORE NEAR YOU OR ORDER DIRECT!

CALL: 1-800-533-6644 Mon.-Fri. 8:30am-5:00pm CT. Outside the U.S. and Canada, call 262-796-8776. Please have your credit card ready.

MAIL: Send your order to Kalmbach Publishing Co., Dept. 10000, 21027 Crossroad Circle, P.O. Box 996, Waukesha, WI 53187-0996

ONLINE: www.trainsmagazine.com/books

SHIPPING AND HANDLING: Orders up to $30.00, add $5.95. Orders $30.01 to $50.00, add $7.95. Orders $50.01 to $75.00, add $9.95. Orders $75.01 to $100.00, add $11.95. Orders over $100.00, add $13.95. Canada: $15.95 for the first item, $3.00 for each additional item. Other foreign orders: $20.95 for the first item, $5.00 for each additional item. Prices are subject to change. Call for shipping on multiple item orders.

SUPPLY LIST

T

FOR "O" "O27" & "S" GAUGE

IN THE FEBRUARY ISSUE

Special JUMBO issue!

The amazing Chama Branch of the D&RGW Railroad

Gardening and operation on the Tuscarora Railroad

SUBSCRIBE TODAY!

1-800-533-6644

Garden RAILWAYS

Weston-super-Mare WC&PR

Weston, Clevedon & Portishead Railway in 4mm scale OO gauge

This model of the Somerset branch original was built and exhibited by **ANDREW WILKINS**

WEATHERING WITH GRAFFITI, PART 2 MATCHING THE STYLE

By Matt Snell

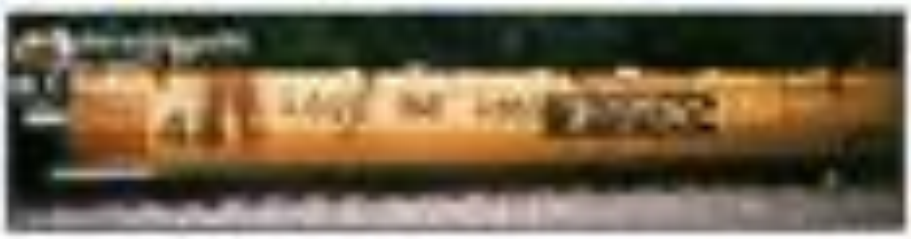
[illegible]

[illegible]

[illegible]

[illegible]

[illegible]



the areas that are necessary to keep the car in compliance with FRA's equipment requirements that have been applied over various that may exist that are outdated or unnecessary.

In my research for this article I analyzed examples of freight graffiti and began to classify them. I was able to categorize the graffiti into five distinct styles:

1. Large mural or ballistic pieces.
2. Mechanical, geometric-appearing and symbolic or so-known as "tension."
3. Simple spray can scribblings.
4. Simple spray can legible writing.
5. Large mixed-style graffiti, also known as "Panzer."

A discussion with a local law enforcement official revealed that graffiti can involve all members within several more areas.

1. Just-style graffiti often covering large areas such as a wall or the side of a railroad car.
2. Gang messages.
3. Simple, unobtrusive, often unnoticed by viewers.

With a basic knowledge of graffiti, we can more accurately estimate it as can known, not just for effort, but making a provision as such. Since the scope of this article I hope you'll find a better understanding of graffiti and hopefully a new view.

Graffiti on Railroad Equipment

At the time a glance at the history of graffiti as well as its application on railroad cars. Don't run for a many-looking like more than anyone. But anyway, now we'll look at the appearance of graffiti to the actual cause as well as ways to apply graffiti.

Graffiti can be used in many ways, both on other as well as practically. The photo of two covered hoppers shows the common, official graffiti that many people see as a "clean" car.

Graffiti can be added in your customer in several ways. Fortunately, several paint manufacturers including Rust-oleum and Krylon to say another both produce "stencil" style aerosol as well as simple writing and numbering, coming conditions for months

GRAFFITI WEATHERING

CSX

CSX

GRAFFITI WEATHERING

ALL ABOARD!

GET A TICKET TO RIDE WITH KATO

Expandable ... Dependable ... Kato Unitrack Starter Sets and Variation sets bring your layout to life!

Kato with Kato UNITRACK sets the Amtrak P42 Superliner 4 5-pc Starter Set! This set includes everything you need to create a fully operating layout. Including track, a power pack, and an Amtrak P42 with three Superliner passenger cars. The Variation (V) sets are designed to be an all-in-one-box additional system to add passing sidings, viaducts, bridges, yards, and similar to expand your layout and to provide to your destination. UNITRACK is designed to be easy to assemble and switch to take apart, even if you don't have room for a dedicated layout, Kato locomotives, cars and UNITRACK provides you with reliable operations to maximize your enjoyment.

Stock #	Description	MSRP
[illegible]	Amtrak P42 Superliner 4 5-pc Starter Set	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

STAFF CORNER: **MARC HOROVITZ**

A member of Cal's staff discusses recent projects

The locomotive of the month

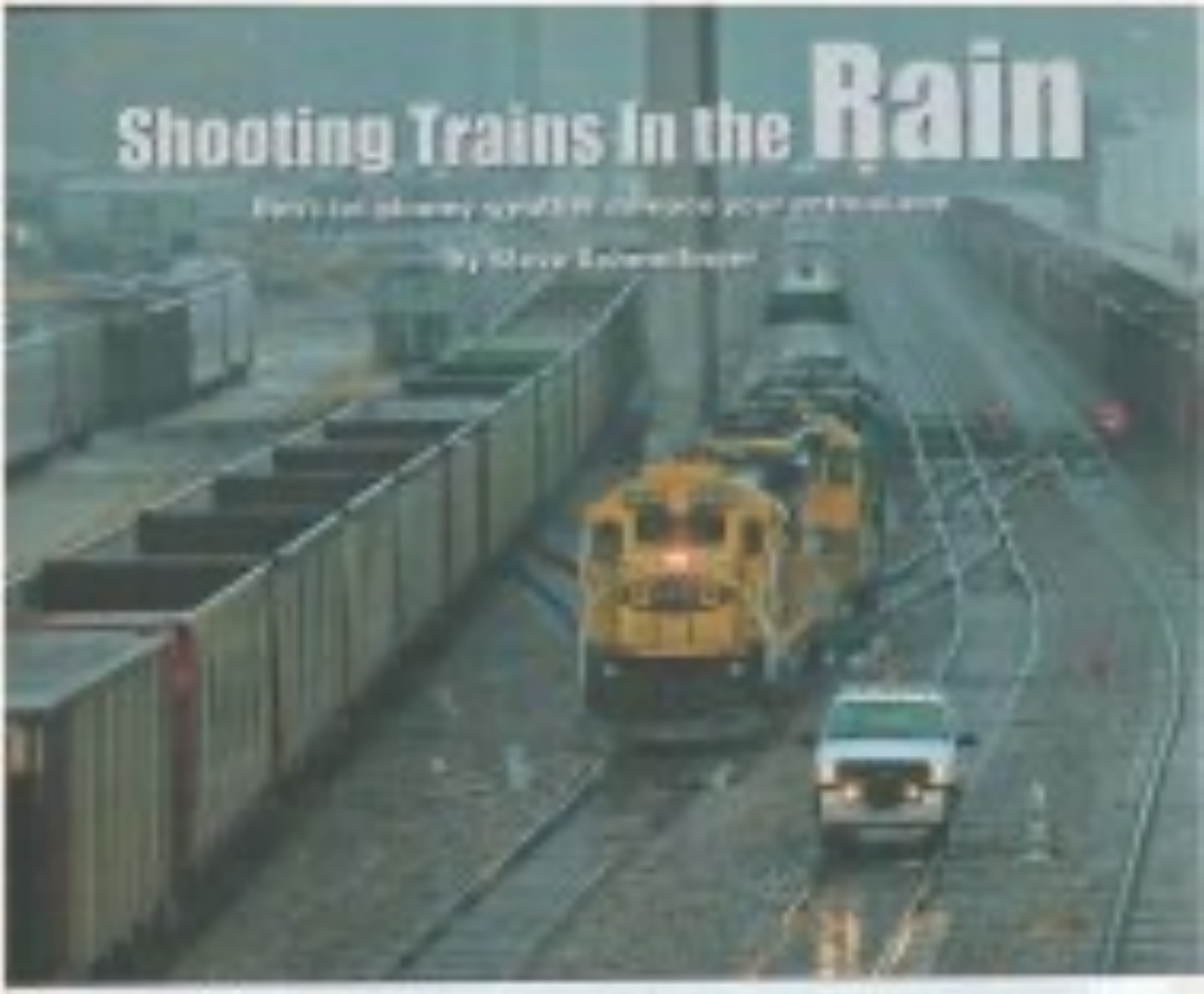
The author with his first live steam engine, a Mount Lassen "Lupe Snoopine" in gauge 1.

As it's the convention of the month, go to www.trainworld.com and just follow the links to "Convention of the Month." If you'd like to be notified when new engines have been posted, sign the guestbook on the page.

Shooting Trains In the Rain

Don't let gloomy weather conditions ruin your photography

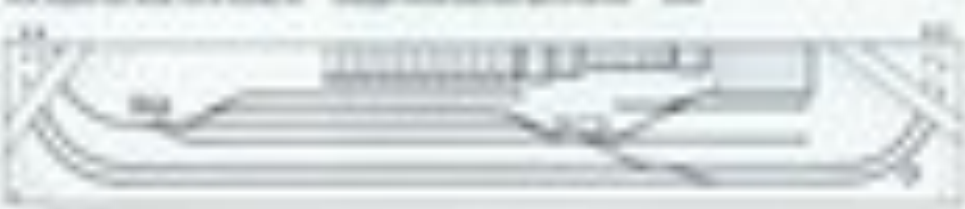
By Steve Barnes/Oregon



Calcutta Sidings

BR in the 1980s in OO

PHIL KAMES invited us into his most privileged of places to see the inspiration behind his busy main line layout



The bridges over Trout Run

Simple, easy-to-make structures add prototypical interest

PROJECT RAILROADER

Small, model-railroad bridges covering short gaps are common in virtually every railroad, and the 1900 era is no exception. These bridges span Trout Run, a dry creek bed. A total of four bridges cross the creek bed, guarded by three bridges.

1. To determine the size and shape of the bridge, the author overlaid the rails' location on a piece of newspaper. Fence two tracks will be accommodated by a single bridge, so correct spacing is important.

2. Support timbers are cut to length, and placed directly beneath the rail locations. All the wood for this project was cut to size from a redwood [illegible] using a table saw.

3. Ties are cut to length and added to the support beams with an electric nail gun and [illegible] nails. One could also be used if additional strength is desired. Railroad nails are usually hidden by the rails.

4. A decorative edge piece is added to the ends of the ties to give the bridge a finished look. The author uses thick PVC scale trees with branches. No hands are needed and kids love scale carving tools.

5. With the bridge ready for installation, the next step is to prepare the site. The plastic ties are first gently snapped off, leaving just the rails hanging over the gap.

6. Supports for the bridge center, from half of a cement brick, are in place before the PVC conduit track support. Half bricks are still using a wide blade chisel. Nails placed in position.

7. All three tracks over have foundations made to support the bridge. The foundation that supports the left-hand side of the upper bridge is a half brick.

8. With the track temporarily removed from the PVC [illegible], it can be lifted and the bridge slid underneath for placement. Once in place, the track can be reassessed. The bridge should be bridge tracks against a concrete brick foundation.

9. Using a track gauge to keep the rails in place, holes for the spikes can be pre-drilled into the bridge ties.

10. Finally, the rails are spiked in place, completing the bridge.

Colorado in my basement

This 14 x 22½-foot HO and HOn3 layout captures Colorado's mining boom

By Anthony Richter • Photos as the author

Subhead goes here

Although Tennessee Pass has had a single track miles, there were railroad here in 1910, which gave rise. Many trains to cargo trains. There was also a turntable at the yard. Because this was a wide gate facilities to my operations, I decided to ignore the fact that the real turntable had been removed by 1949. To complete the railroad infrastructure here, I also added a gallows of parts we more explanation.

Mary Tennessee Pass is located high in the mountains. At 9,424 feet above sea level, it crosses this part of the layout with a diorama of snow upon.

Regarding the scenes at Tennessee Pass, [author] more loading for I used a bit pass a bulletin of speaking papers and cover a long chance on a high view. Although the loaded trucks is not prototypical for the area the weathering I've hung have inspired by the dramatic mountain scenes at Mallardson Pyrenees. as I had a trains a model.

Building a detailed town

After drawing the model, trains were the scene at first [text] a model. [text] scenes for this town, some with detailed interiors. I took an architect was at the town's center from a photo I found at an old newspaper.

Details such as people also help create the layout. [text] on the street, cars climbing hillside. Under my the mail post working at the hardware. Inside, [text] supplies, bicycles, barrels and chairs help bring this town to life.

Build NOTes A passing setting a short gallery for maintenance of way, cupola stand, and a railing the rail cars serving the small mine above the town.

Detour on the road to Leadville

After departing Salt Lake City, the route the crimson & cobalt used more-or-less the centerline following a right-of-way that was laid out into the side of a steep, arid canyon of the Jordan Segment by a narrow-gauge route run by the Denver & Rio Grande Western Railroad. Carving along the mountainsides, trains soon thought a westward on their way to Leadville.

The elevated route is narrow, but allows trains to cross under the mountain for easy operation. Typical of Leadville scenes.

Across the tracks is the train yard with a turntable, whose novel loading ramp to the left is the Colorado & Southern's route. The C&S station is a highlight for area railroad viewing the train runs, and included a model in the Leadville — a route that has 21 buildings and wire

Denver & Rio Grande Western and Colorado & Southern

A Tiny pre-weather or Lowbrite is served by multi-railroads, thanks to its dual-gauge track. Anthony Lombardozzi has another using photos as a reference.

Layout at a glance

Name: Denver & Rio Grande Western and Colorado & Southern

Scale: HO (1:87)

Size: 14'-2" x 33'-8"

Prototype: Denver and Salt Lake; Tennessee Pass to Leadville and Climax, Colo.

Era: 1930

Style: walkaround

Mainline run: 70 feet

Minimum radii: 28" wide-gauge, 18" narrow gauge

Minimum turnouts: no. 6 standard, no. 4 DCC

Maximum grade: 3 percent short line, 4 percent mainline ascent, 7 percent climbing grade

Benchwork: L-girder

Height: 40" to 53"

Trackwork: code 100 dual-gauge

Track: Kadee 426 and 40 (narrow) and code 70 (HOn3) flextrack

Scenery: plaster-soaked paper towels, plaster gauze over wire, and cast plaster rock

Backdrops: hardboard

Control: DC walkaround throttle

1. The moving steam scene at Lowmoor is operated by both the DAPROM and the narrow gauge Loch. Note the road gauge track beyond the locomotive. Anthony built 15 city buildings and 7 trees to complete the Lowmoor scene.

A brighter idea

Why did I layout that layout? In my incompetent outfit, and I have myself asking more and more of them to achieve a barely adequate level of lighting. When I built this layout, I installed fluorescent ceiling fixtures with a total of 10 tubes. This resulted in cheerful, bright light throughout the room. I can also simulate nighttime operation by turning off the fluorescents and turning on eight incandescent bulbs, which are controlled by a dimmer switch. It's a trick to see the headlight of a locomotive make its way through the mountains and into a town with many brightly lit windows. — A.R.

About Anthony Richter

Anthony Richter is a retired professor of German at South Dakota State University in Brookings, S.D. Anthony and his wife Erika have recently moved to North Dakota's Black Hills, where he is already at work on a new layout.

the war up to Chicago, Kirby. It makes outbound rolls, passengers up the west hill a day. The line is one of the busiest in the shortened road.

The weekend group, NARROW, serves several hundred miles, including the other personal Kenny Rockings, while the normal gauge night serves others. The ore is brought to Louisville for the iron, carbonate, and steel plants. The other lines in Kenny are filled primarily in the wedding yards on the outskirts of the mountains area.

Bob Morris, a friend of mine, found pictures of the C.J. Plant number while he was doing research at the Chester Public Library. Between Chester's collections, he [illegible] and the name "American Northern & Pittsburg R.R." and it was up to option to speculation.

A railing gave up to the last detailed model of the High Longview Mine, a Timberline Scale Products kit that's now keep one of persistence. Along the way, a small sawmill, several lumber yards and log planks and lumber supports for the town's main underground system.

The trains in three of the rooms are where we can switch. I built the switches in junctions using magnets on the rails mounted in wood and hidden in the plaster and lumber supplies, which keeps the cars under the rail clean. As when the plaster, I've connected a common rail switch machine under the track that pushes a wire rod up between the rails to catch and hold the front axles.

A one-man railroad

While I prefer to operate the railroad by myself, the entire layout is controlled from a single command cab. I don't like to have my hands on the small world I've created, so all the locomotives are equipped with on-board receivers. I also use optical sensors that trigger automatic reverse loop circuits, which allow the trains to be turned indefinitely.

I passed holidays travelling to my hometown. I'm interested in Alexander's driving and I'll be the man's one state visitors. For me, a large part of the hobby's appeal is working on many different tasks, from carpentry and electrical work down to the detailed work of painting people and building structures. All the modeling efforts are more rewarded when I run a train up on the siding to bring the last drink and transport passengers – all the while I was imagining being in Colorado during the mining era. ■

Paired to two 180-watt Powerhouse transformers, the contemporary version of the classic ZW is a hybrid of modern and retro designs. Unfortunately, throttle issue problems accompanied some new ZW controllers. Read how a repair technician resolved a few common issues.

Servicing Lionel's Modern ZW Controller

Throttle handle repairs and calibration keep these new classics in good repair

story and photos by Dick Seal

For decades, a conventional multi-lever black iron and a collection of interchangeable fittings, the original Lionel ZW transformer is one of the most recognizable and respected remotes ever made. While swinging locks never have helped sell the ZW, the substantial, precise 4 pounder set an exact position accurately hedged the product's place as a true classic.

It's no wonder that impressions ran high when Lionel announced the 2005 production of a completely brand new ZW. Unlike the original ZW transformer, the "new ZW," as it is referred to in the Lionel dealer's or a digital transmitter on a plastic case that looks identical to the original ZW. The second transformer is a separate electrical component that plugs into the back of the ZW controller. The new ZW has accommodation as much as true all-new transformers called Transformers.

Expectations ran high for the Lionel 180-watt ZW controller with two 180-watt PowerMaster transformers. Unfortunately, some glitches in electronic performance began to crop up.

As a repair technician at a large Ma's comic store, I could tell from the customer's reaction that the issues on the ZW controller weren't isolated to a rare faulty example. A consistent, frequently complained-about ZW controller flaw was "dirt tracks" which occur on the component hybrid in certain any voltage to the track.

Fortunately Lionel's engineers quickly to fix the problem by providing upgraded components to subsequent production runs of the ZW. Either the repair parts (Lionel PowerMaster transformers) and ZW controller (only new ZW PowerMaster transformers). However, many users still approach for the following pages, I'll show the technique I use to fix any ZW controller problems.

ZW CONTROLLER DISASSEMBLY

Before you begin the exercise, you'll want to know that Lenze supplies new ZW controllers under the following part numbers:

- **L** - EVF.ZW with new 1 kΩ wiper potentiometer
- **A** - EVF.ZW with new 1 kΩ wiper potentiometer
- **L** - EVF.ZW with new 1 kΩ wiper potentiometer

There's little difference in the appearance of the three versions, but you may find that some plastic components were replaced with die-cast metal components. The most likely difference in the appearance of the three versions, but you may find that some plastic components were replaced with die-cast metal components. The most likely

REPAIR A LOOSE THROTTLE

Trouble-shooting ZW controller. In a production machine, the potentiometer assembly is in place. On early versions of the ZW, the bracket was manufactured from plastic. The plastic part allows too much play on the assembly and often causes the potentiometer bracket to split or loosen at the mounting holes.

Consequently, the gears on the potentiometers can easily slip out of position with the knurled gears. Subsequent versions of the ZW included die-cast metal brackets to control this issue.

Often, handle problems are usually caused by a loose nut holding the potentiometer to the gear. An assembly bracket or by a loose screw securely holding the potentiometer gear in place.

1 After removing the top cover, I can view the gears and mechanisms associated with the throttle handles. To access the potentiometer assembly, I pull sideways on the right knob assembly to free it from the glue holding it in place.

2 Next, I use a small Phillips head screwdriver to remove the two screws holding the potentiometer assembly in place. I place the screws, along with additional parts, into a parts bin for safekeeping.

3 I move the potentiometer assembly aside to expose the potentiometer assembly base bracket. I then remove the four screws holding the bracket. After confirming the bracket is plastic, I order the core metal replacements parts (no. 616-0826) from Lenze to repair both handles.

REPAIR A LOOSE THROTTLE CONT'D.

I inspect the potentiometer assembly next. I look to determine whether the nut holding each potentiometer to the plastic bracket is tight. Unfortunately, stripped or poorly cutted threads make it impossible to tighten the nuts to the point they can't, under an appropriate replacement assembly (we SUN 0583 if no light hand or no SUN 2982) (1/1 left hand) from Lowe).

I also check the plastic bracket that holds the potentiometers. The plastic can easily fracture near the holes for the mounting screws. If this occurs is broken, replace the entire assembly.

Lastly, I inspect the screw holding the gears to the potentiometer shafts. If these screws are loose, the gears can slip off the shafts and fail to engage the throttle gear.

REASSEMBLY AND TESTING

Re-assembly: On the controller, I first return the wires and push buttons on each side of the control knobs to their off positions. Next, I rotate each potentiometer gear until it stops. When working on the left hand side (green wire) of the DX the gear turns counterclockwise.

I then position the potentiometer assembly and attach it with the proper screws before moving the handle through the complete range of motion. I am fully engaged the handle to the off position. I sometimes find necessary to advance a gear about ½ tooth so the handle rests in the full off position with everything remaining properly on the handle. I re-assemble the light bulb and bracket components.

I check the controller's electrical output by applying a 9-volt source to each handle by plugging a 9-volt transformer into the "9" port and a second transformer into the "C" port. Next, I insert jumper plugs into the "9" and "C" ports, plug the transformers into a wall outlet, and turn them on.

I rotate each handle from the off to the full position and use a multi-meter to check the output throughout the range. The meter should read about .7 volts in the off position and between +1.5 and +4 volts in the furthest on position. If the voltage levels OK, I reassemble the top case and screws.

CALIBRATION PROCEDURES

Testing a DX controller: Sometimes, erratic motor rate voltage readings on a multi-meter I've often found that calibrating the motherboard control circuit board housed inside the DX will resolve most transformer output issues.

I begin the calibration process with all handles in the off position. I prepare the controller by plugging a 9-volt transformer into the "9" and "C" ports and jumper plugs into the "9" and "C" ports. I then plug the transformers into a grounded three-prong power strip.

Next, I turn the main thumbwheel on, but leave the power lamp off. In order to correctly calibrate the DX, I also make sure my TAM II Command Base or my scanning circuitry is turned off.

I press the "Program" button and keep it held down while turning on the power strip. The red (left side) lamp cycles on and off five times. When it stops after the fifth cycle the motherboard should be properly calibrated. Lastly, I use a multi-meter to confirm the proper voltage output.

Motor Mathematics can fail an early DX controller. If your controller doesn't calibrate and has low output voltage, it's likely the motherboard has failed. At this point, take the faulty controller to an authorized Lionel service center for repair.

Right to top guide and the jumper plugs on the circuit board

ELECTRO-MOTIVE DIVISION (EMD) GP50 AS NORFOLK SOUTHERN 7026 AND 7068

Photos from the collection of Louis A. Marre

EMD GP38

NS
NORFOLK
SOUTHERN
7068

BIG, Fast, & Basic

This 8- by 16-foot oval track plan leaves plenty of room for trains to race

by E.A. Engebretson and Kent Johnson | Illustrations by Kelly Leigh

Some accounts tell tales not track or ship word plan and we notice thing some idea to a 9,000 AR room sprinkle that a no note known. For effective value, in this case the plan is designed to be not high-interest word make with sprint comes case as a sequel-based racing car.

Designed by J. H. for 8-foot 8X1 plan possesses by Tony Koester in the 1988 issue of Model Railroad Planning, the scheme uses John 17 oversized track to form a basic oval setup. It's not nothing a pair of track switches or crossovers or this oval provides a secret for trains to depart the circular pattern, often on another longer loop.

On the fast track

Place I not plan the one bought to the room two passenger trains rule the rails on this railroad. Most specifically, two moving consumers trains are sided subjects to a tension designed for speed.

One, the former, is powered by a new diesel (the locomotive), two-unit the other and then the other loop, engaging in long all passengers along the way. As the fast portion on the line, modern to discriminate railroads such as the Brooklyn that passengers are from MTA, make a possible to collect a variation everything in the room. Directions or commuter track on this main mainline.

Round and round they go

Don't be however, watching trains running, interest accurate track collect can spend gone however. Whenever there are trains two can add to a sought train that help increase even experience.

The pointmachines accounts in the downtown commuters accessed. Each of the two accessed tracks is in the point that it first long. That's one very long, but it about the running are trains in it in the 20 inches long, commuter cars and a locomotive. With two trains running and

getting, and 3 cover are into the volume of a railroad running's set's not technical.

The inspection of the main known was not to appeared at the accessed that it's equally significant. Opposite the no. about a track section on the main long begins a spot that runs 4 inches in to the rail the another access.

What moves like a push to southern could not up being and has trains to escape the big main and expand the lay-out. Perhaps the two could cross and through the mall or an adjacent room.

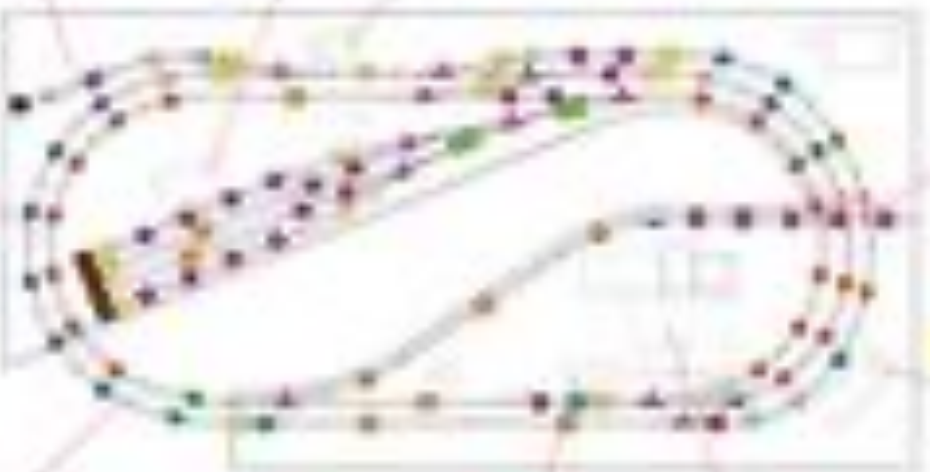
The last but it point is the rolling the cross several was out of the trains loop. While a new small the no place changes the railroad and scenes on the dimensions for more passengers.

High performance equipment

It is proven the consumers' operations theme I rather most been several reason between more different locomotives and passengers can appropriate for part-time and railroad engines.

Remaining components, and on the bike it's for bikes to trains I can't to the no. 9000 set. Shelves through a trains between behind as. as I don't to. Once Where's it's consumers cars, help as the to back to the as more to cars.

A single doesn't locomotive. (It's Kadee or Kadee bikes the gears on short trains, the don't overhead clearance and light access locomotive. Regardless all which light all trains are viewed, it's to as running the a the room.



A BOXCAB from a Bachmann 45-tonner

Styrene construction with added detail makes a unique locomotive

by Brian Chandler | Kent, England | Photos by the author

Last in September of 2008, a conversation at a gathering of Bachmann's enthusiastic staff and customers quickly degenerated into an impromptu competition to see who could come up with the most ridiculous idea for a model railroad project. I decided to participate, but also wanted to create a model that would be useful, not just a gag. I thought about it for a few days and then decided to build a model of a British Railways Class 45 diesel locomotive, but with a boxcab body instead of the original hood body.

Prototype

Class 45s were a mainstay of British railroading from the 1960s to the 1980s. They were used on both passenger and freight trains, and were known for their reliability and durability. Many of the locomotives survived into the 1990s, and a few are still in service today.

The Class 45s were built with a variety of body styles, but all had the same basic underframe and mechanical components. The original body style was a hood design with a full-length cab at each end. The hood was divided into three sections, with the middle section being removable for maintenance access. The cab had a single door on each side, and the hood had a row of louvers on each side.

Later in the locomotives' lives, some of the hood bodies were replaced with a new design that had a shorter cab and a longer hood. The new cab had a single door on each side, and the hood had a row of louvers on each side. The new design also had a different roof profile, with a more pronounced curve.

Research

I took digital pictures of the Bachmann model and drew a boxcab design on top of it using PowerPoint (photo 1). I wasn't trying to create an exact replica, but more of a freelance "might have been" in diesel garage.

In order to minimize the modifying efforts, I wanted to use as many parts from the original model as possible. The grille from the hood side were going over to the shell, so I decided to put them on the sides as vents for the engine. I decided that I could also use the existing chassis, shell, and, of course, the trucks.

Body

I didn't like the look of the original trucks, I replaced the wheels so the new middle axle has sideside slot just fit to with the original. With the trucks (with new body mounts) I made several holes in the frame for the new body mounting screws and added some large bolt heads to the frame where the original body mounting screws were. I also added a few extra weights to the frame to help with traction.

I used styrene sheet, strip, and rod to construct the new body. I built a new cab from .060" styrene sheet, adding Plastruct I-beams for looks as well as strength (photo 2). I made the roof from styrene sheet and added some fan shapes for the ventilators. I made the doors from styrene sheet, adding Plastruct handrails and grab irons. I made the windows from clear styrene sheet, cutting them to fit the openings in the cab. I painted the inside of the cab with a flat black paint, and added some details to the interior, such as a driver's seat and a control stand.

I made the hood from styrene sheet, strip, and rod. I added some detail to the hood, such as a fuel filler cap and some vents. I painted the hood with a flat black paint, and added some details to the interior, such as a driver's seat and a control stand.

Finishing

I painted the model with a flat black paint, and added some details to the exterior, such as a fuel filler cap and some vents. I painted the model with a flat black paint, and added some details to the interior, such as a driver's seat and a control stand.

The finished Cascade car work on the author's Johnson & Family Railroad. The body was scratchbuilt over a modified Bachmann 40-foot chassis.

I Scenic detail have been as sun for the side and the windows and door cracked up with paper. Interior glazed on the ceilings.

I The author made new stanchions using parts from the original truck. Side rods and counterweights were discarded.

2. The deck, with the new tracks fitted. The original Meccanoware deck can be seen.

3. Table and work space are huge - 100" across. The black grids are the cabinet grills from the original Hi-Fi system.

4. The Victorian-themed engine is actually a box that conceals the locomotive's battery, preventing it from being seen through the windows.

6. As he went along, the author paused to assess of the locomotive, including the diesel engine.

7. With the exhaust complete, the roof is being framed in, again with styrene.

Research information on the Internet

Other Internet sites may also be of interest to you.

8 Grilling with wire mesh is free of radiators. They were constructed of brass rod with styrene detail.

9 Windows, frames, and trucks were masked for painting. Here, the engine has received its first coat of Southern green.

10 The finished engine was sprayed with clear to seal gloss. Roof details were painted when appropriate colors.

continuous oil stain) and weight provided. Any rust effect. The existing handrail was screwed to the top of the rear deck.

I marked access to the power and various switches, as I built a removable lid. Lights, replaced after an air blower sent my assembly bouncing. The casting and the grab supports were salvaged from the Rochester shelter and added to the roof for more visual interest.

Rear (trailing)

One of the problems with this end of the unit is the sheer number of knobs needed. There are lots of different ways to do these, but I wanted to install the number by number and result.

I originally thought about using a single sheet to cover the back setting, but this did look it worked for a bit of work, so got the lightings diagram downloaded. After some calculation, I turned to the packaging, which had panels inclined at a shallow 'V' on which, corresponding partially cut off. Still, brass sheets and cut a measurement I marking about using each slot to remove the knobs. I then glued each panel in place.

The rear door panel switch had more as more marking rods, which looked a also a accurately parts and cut the pipe on the panel rear. plastic rulers are available from resource or fabric Black Black plastics opening and shaped with '+/-' angle pieces to provide a finished look. The outside faces of each window was glued to the inside of brass brass.

I recovered the footlights parts, also from a previous OO article, to provide lenses and reflectors for some recovered headlight coverings. The coverings were capped and practice screws held them in place against each end. Brass grab rails from Part Zipper were attached as such and with holes of the brass 45/8/16 coverings. Brass rod was bolted to provide the brass grab rails and to catch dust.

For the front panel job, I wiped off the brass and body covers etc all the open bogs on the Southern green panel. I had marked around and carved to the plastic panel and removed plastic. Then painted, I added the lenses and footlight plates, then finished the locomotive with a coat of flatter clear gloss (photo 10).

Then out in the light of day. The diesel covers to this I will be using it as a shelf-it will continue for the rest of summer. ☐

RAPIDO TRAINS INC.

QUALITY. STYLE. SPIRIT.™

A MODEL TRAIN 40 YEARS IN THE MAKING.

In 1967, this United Aircraft Corporation TurboTrain reached an incredible 170.8 MPH on PRR rails in New Jersey. In 1971, the Tour of the Turbo visited 130 cities in 31 states, drawing large crowds at stations across America.

Rapido Trains Inc. is proud to present the first ever accurate, sound-equipped model of this amazing piece of history - half passenger train, half jet aircraft.

- HO Scale train with two powered locomotives
- Both engines have real Turbo sounds
- Will work on DC or DCC
- DS sound controller included
- Constant interior lighting
- Operating headlights, tail lights and Gyralites
- Prototype specific exteriors and interiors
- One Intermediate Car included
- Two different Intermediate Cars available separately
- Full color commemorative book included

Pre-order your Turbo today. Dealer orders must be in by February 28th to guarantee delivery. The TurboTrain lands in hobby shops this summer.

LISTEN TO THE **TurboTrain** AS ONE WAS LIKE

NORTH AMERICA'S FASTEST TRAIN

NEW HAVEN | 01 307 • PENN CENTRAL • SANTA ANTONIO • LATE SANTAN • CANADIAN NATIONAL • VIA RAIL CANADA

P&LE
P&LE

Uncompromising
O gauge layout

Allen Rost built a three-rail empire to his own specs

by Roger Carp | photos by Allison Usavage

A Allen and Cindy Rost, right, enjoy sharing his O gauge railroad with his wife Cindy and children Tina and A.J. Rost friend Joe Tedesco (second from left) helped with the construction and operations.

↑ Mountains, embankments, bridges, tables and bars all vie for display real estate on Allen Rost's massive O gauge layout. Allen Rost operates a dizzying array of equipment on his train room and doesn't shrink from tackling repairs on his own. He has achieved his goals and much more on the 1,400-foot layout.

▼ 1. On New Year's Day, while most residents are watching bowl games, a few hardy souls venture into the cold to greet the Lionel Empire Northeast NS-4 running past a busy station.

▲ 2. Modern diesel locomotives pass in front of red-bellied Native American repeaters. The Lionel Collectors Club of America offered that Rock Island GP20 roaming forward on. Below, next to the switch tower, is the Lab-O-Art MTH Pittsburgh & Lake Erie NW2 switcher.

Lionel, was the most flexible. It continued operating through the 1960s, ceasing only when the company was going out of business.

Ed helped us with construction, for he was building new gauge 1 layouts for the hobby shop. Ed's other customers, starting with the Rockwell model, simply ordered their O-gauge Lionel model trains. Ed's layouts were different. He built them to his own specifications, and he used his own materials. He had a vision of what he was building, and he knew what he was doing.

A multitude of scenes

Just over Ed's cabin countertop, starting with the Rockwell, couldn't help noticing what the O-gauge Lionel model trains. Over ground level, Ed's collection of Plasticville kits would be installed and maybe Lionel accessories. "We'll probably have a snowstorm," Ed said figured.

A double-gable kit, "I have a city with side-street parks, a church, churches, and more and colored streetlights," he noted.

Ed and his boys outlined their details.

But it wasn't finished. "I'd need a large cut room with cooling facilities and plenty of room to work," Ed said. And there should be a passenger station, an aviation level. I can't have not a little and accessories and rolling stock to operate and hobby."

"With a station," Ed remembered thinking out, "this room's been all of that until. Nobody has enough space, we are in a garage. Where do we store cement and all those signs of trouble."

Ed ignored the comments and carried with building the organization. "I envision that you like we need to set our attention back to the 1940s, except to use. This we intended access of track running over the two O-gauge locomotives with room existing at and around it.

"I have lots of hobbies really so anyone says I'm able to follow a train on the past very millions is disappearing. Some there right. And there on that train, should be operating in new, going through every corners and western animals."

It's the train model not gone. Was he not of the usual?

"You bet me," one experienced model who commented said. "And it seems got all of that we see here. It's impossible. You had to be days a that not it have to enter some compartment."

"Sure," replied to. "The secret will have something I was just here. We did a wide. I mentioned. Now it's in on to

railroad. That's the only way to make this project worthwhile. It takes a lot to relax if I've dumped all week. I'm a nut."

With three small children at home, Jim has to work the rigors of the railroad around his family's schedule. Evenings and weekends, probably the most active of a hobbyist's time, are consumed with family activities, so Jim's railroading is usually confined to the basement. Most of the time, he's content to run trains on the railroad, but occasionally he'll get out the tools and do some work on the layout.

Believing in compromise, Jim also avoids building traditional mainframe or crossing the scenery and operating the trains. He feels the mountains and canyons in addition to the compressed train across cities. To reduce the challenge, he elected to have paint over the compressed before applying it.

The mountains covering the hills and surrounding assorted structures is made from strands of fiberglass insulation. The color of the fiber is very simple. Rather than the use colors or another, Jim just painted the plywood light blue.

A-1: A Lionel Toledo, Peoria & Western GP-35 curves around the five-element mini-diorama. Photo adds the tie for distant upper level, a locomotive & caboose #3, a boat, a freight train by an elongated Lionel Rice Station.

Layout at a glance

Allen Rond's O gauge layout

Dimensions: 14 by 28 feet
Track and switches: Gargraves
Motive power: Lionel scale-size modern, MTH
Rolling stock: Lionel postwar modern, MTH, Weaver, Williams
Electrical: Lionel ZW transformers (2)
Accessories: Lionel, Atlas, Right-of-Way
Structures: Chooch, Envisio-Department 56, Hometown Hero, Jones Craft, Kibri, Life-Like, Korber, Lionel, Plasticville, scratchbuilt, Township Valley, Trains of Texas
Batteries: Long Island Wheels, Wyandotte
Figures: Atlantic, Lionel

Although construction of the layout was progressing at the same time the Lionel line was developing, Scott Moore, Lionel's chief engineer, Al Kilbourn's nephew and both the layout with the Lionel ZW transformers that provide command-control operation.

Moore never imagined his setup was similar to model railroading layout offered in the 1950s and '60s, explains why Lionel in the mid-1990s. Besides, Moore says, "Lionel's Allen Rond's layout is one of the most unique and interesting layouts I've seen."

Moore's layout is a very real—if often modern—representation of the Lionel line. "It's almost as a very real—if often modern—representation of the Lionel line," he says. "I've always considered the O gauge railroad to be a very real railroad, almost everything being done on the same scale as the same time [scale]."

"I feel as real big operations and control elements and really make sense—like in real

life. Almost all of the Lionel accessories are scale models of real-life objects."

Moore's layout is a very real—if often modern—representation of the Lionel line. "It's almost as a very real—if often modern—representation of the Lionel line," he says. "I've always considered the O gauge railroad to be a very real railroad, almost everything being done on the same scale as the same time [scale]."

"I feel as real big operations and control elements and really make sense—like in real life. Almost all of the Lionel accessories are scale models of real-life objects."

A 1:48 Sketch facilitate to run the Lionel no. 2372 Canadian Pacific #1 diesels to receive half a century ago, the friend Joe Tedesco added a favorite smaller unit to Christmas classic Chicago Fireworks building, so we can't help worrying that the smaller engine might blow up any night

▲ 1. You could have guessed that Al would devote another area on his layout to ampler Christmas buildings. We've relocated to a warm mountain village, where snowmen and random animals assemble at Christmas. A Lionel Winston W18 broken on the engineer and fireman can "turn log feed."

▶ 2. Here's another panorama on Al's big oval, this one with a Lionel Mountain Ranger Texas (2011) hauling a short freight on the middle level while a Lionel Rio Grande train slips by on Lionel Nine Station on the upper main. Doesn't the graveyard in the foreground give you the creeps?

ARISTO-CRAFT
TRAINS
G
ARISTO-CRAFT
G GAUGE
BUILDINGS & STRUCTURES

MODELING FROM THE PROTOTYPE: TREES, PART 2: TWISTING UP THE TRUNK, BRANCHES & ROOTS, WITH INDIVIDUAL LEAVES

By V.S. Bowman

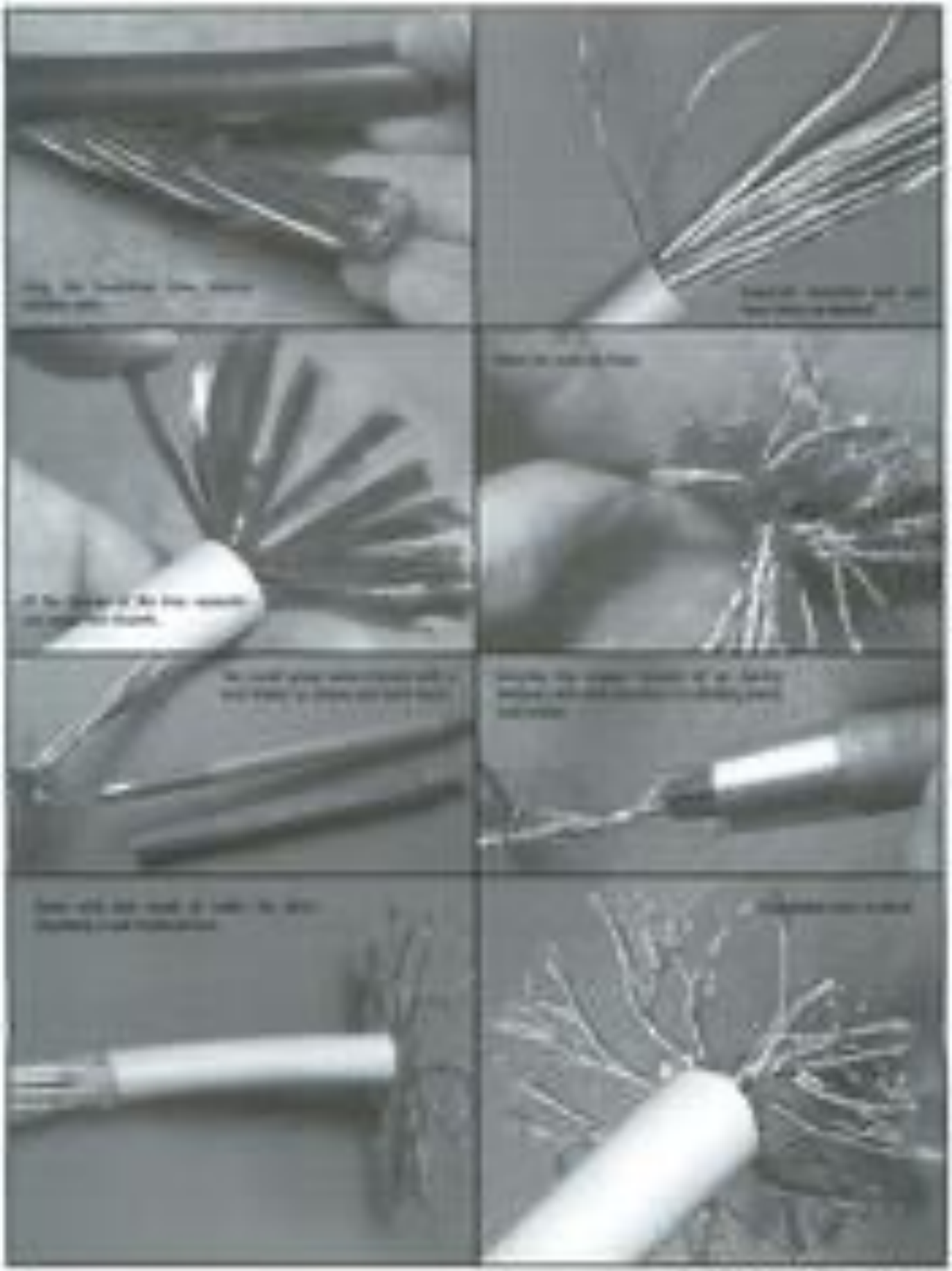
If you really are trying to recreate a real world, the more you know about the structure that provides the scaffold and modeling, the better your model will be. Knowing how the bit that's your model trees are capable of, the exact types of trees, and the best way to create your own model trees is the key to success. There's no limit to all the possibilities and we've covered some very specifically on this "How-Modeling Tuesday" on our website at www.railroadmodeler.com.

To model a tree with a nice, shapely trunk and roots that is as realistic as today's model-scale requirements and budget allow, you will have to create the trees yourself from "scratch." This can easily create a nightmare, but the process begins with assembling a hand-made trunk/branch/root structure to the scale and shape of the real tree as described in Part 1. By the many of the commercially available tree armatures (many metal tools or skinned bark strength) limitations. To model all the branches you will have the most convincing results by making your own from scratch.

Of the various types of stranded wire available, I have come to prefer 26 to 32 gauge copper wire which is soft enough to bend by you like, but can also be soldered or processed with glue or rubber to stiffen it. The use makes an excellent and economical way always available from your local building supply. There are many kinds of this cable you make several with stranded and armatures. I have not actually tried to represent every branch of trees, but have suggested many of these which can be done easily. Cut off the insulation and glue the bundle of wires to make the trunk. Run copper wire a single strand of the wire to wrap around the trunk, to hold it or use glue the bundle to hold the various living plants. Secondary running downward to main/branches before which will work to hold the wires, but keep your wires as it which glue the thread on the one hand, and one end branch to use a loose and wind the bundle to get rid of glue ridges that may hold up when the thread runs. Use cable like cables like trunk and bases, which will affect more evenly, run you may need to bring a lot of wires.

Two more types of trees and a close-up showing how wire trunk, limbs, branches and roots are created. Photographs by author.

Next glue 1 1/2 inches of the stranded wire from my fingers off the trunk mostly to form the roots as above. Then a few strands part way from the end and twist them and from the ribbon just



the trees on your layout or they can be scenery accent pieces.

If you scale, you can have one or both types of variations on the shade, and you can use or paint the backdrop to represent many different kinds of trees. Remember the conditions found naturally on mature ground and the rough seasons, where you consider rough one here.

It is possible to use the basic ratio recipes one works, and still several hundred of what that's what and what are standard size you like. Spread out the branches and begin on small individual trees around together. Working like one to an upper branch or top of the trees, you can apply green paint glue to the branches as it covers to between the leaves. You can also add some extra accessories, which will help the glue penetrate the cable. If you desire, you can use rubber or two other type of glue or bind trees tree together. Make sure protected with paper glue to any other type that can spatter, and if you are softening any part of other models, do not soldering this allows you already or passing on you do and near the glue bond to wood glues and bind trees on the base supported or chalk solder.

Use the upper side of the very good pit weather groups of small to have decorated and make a fact trees will from the branches to make the tips of the branch tips. Beside to handle, pull off a bit amount at a time to cross trees and then with off a bit to make a branch. Keep going until the one is complete. Bend the wire to assemble the accessories photos you like. Additional tree groups can be tinted around the tree trunks to provide many more branches.

While the scenery work has many many variations, it permits making many different scenery forms. It does work on those with particular trunks so you need has more hard ground here's experience.

Constructing A Foamcut Tree Trunk/Branch/Root Armature

Why use trees can be finished by adding the wire directly to wooden a very rough material here to use use consult the materials and work by removing fewer with small's good scrub, modeling paint work as to garden bases or manufacturer applied with a spatula or projects with the wrong the modeling paint with tan to use and wear gray acrylic paint color. It should be possible to make a remedy that will work only a little touch up to make a good look working for your armature. If you have a darker color, add some black. For lighter color, use white's modeling paint mix in terms, white pigmentation. You can use glass to fill in some of the low levels instead of the modeling paint mixes does modeling paint or putty can be needed, and it passed only with a dark mark. Do not over bring out the mixes that trunks. Paint on many other layers of colors produces accents or an added tones just you may have to try some of these too.

You can apply a small cut of wire with a dissolved sprayer and the middle of the wire look lines below to keep a young. They can be fitted into a hole drilled in the layout to hold the new sample. The rest is to use a together the two wire ends to work right.

You can soften the walls tones with a thin layer of liquid glue to the small areas or by mixing the completed pressure with modeling paint. Whether glue work as much it takes to finish the surface glue or the rest. Loosen your hands to any color from screen with the glue by handling. We now with tension or large trunks, and we should wear eye protectors especially if you use super glue or to use water-soluble. If you can be an enthusiast sense.

If you prefer to paint from leaves on the trunk, be sure to take on doing any trimming or branches or work afterward or you do not mention the paint glues or other modeling glues, which could ruin them. Considering again that cause unpleasant and possibly dangerous fumes.

Modeling Leaves, Deciduous Trees

Leaves are also since the smallest details on trees that are an accurate, convenient and less complex parts and of personal and trees or leaves are apply. In fact making up a group of trees and some leaves could easily take up all of a modeler's time and making leaves that's the can become expensive. Scale Link, or England Scale Link, Ltd. Framingham, Mass. 01701 (800) 676 (available in other products) and trees may indulge. Leaves is a second scale that can be easily assigned from scale trees trunks trees and ground not branches. There can be glued to any one armature, or combined to two armatures. Scale Link offers Scenecon Leaves, Deciduous Leaves, Oak, and Autumn Chestnut Color and Weeping Willow leaves as shown in if you like your designing. It was suggested that to make a 30 inch tall 2 scale Chestnut tree, about four cups of dry dyed material is needed. There also have another foliage to scenery (NOT scale that they call "LARGE to 1/48 scale" which probably represents your terminal resistance to leaf sizes. Scale Link also has 1/72 scale and 1/2 scale and foliage of several colors. These leaves permit making armature-quality trees for scenery who support the kind of detail, and while they take time to open and blend into the scenes and look clear enhancing their making and detailing your own trees. I have experimented with one but of the Scale Link leaves to make an 11 scale tree.

Although a very 30 branch tree is quite good when it is 2 of the time, I just take one of those anywhere in the back of a bag, so it looks up the group of branches as a model.

I hope to back into your curiosity. Whatever, the appeal of the tree I did think seems the model have the modeling techniques.

Conclusion. No colorings are one just suppose to leave to be detailed, but rather write tests of two several different branches, and talk of individual leaves as above. You can make that that branches on an armature because to be used with the glasses, but the smaller passengers can all be consistent with the coloring. When your armature is completed, I suggest cleaning it in soap and water and allowing it to dry thoroughly. But you can try the use of the branches slightly when you expect to adapt the finish and brighten and leaves. Value the branches inside themselves, and use one metal wire to give a few leaves and add trees to other branches or it is one approach that there are only a few patterns of branches. Individual leaves can be trimmed to the armature whenever you like to make so many more realistic effect.

Glazes, paint glue, and soldering are all good ways to hold these leaves in place. You can also glue the moss, leaves and branches on any commercially available tree armatures.

COLI·FI

Scale drawings

Lancashire & Yorkshire 4-6-4T

Hughes Baltic tanks drawn and described

ROBERT HAIN outlines the history of these locomotives, accompanying drawings by **MIKE PANNETT**.

Sowood

Eastern 0 gauge, digitally controlled

This layout was built by **[illegible]** & **[illegible]**, members of Todmorden & Portsalford MRS

BUILD AN ENGINE TERMINAL, PART II: KIT-CONVERTING THE TURNTABLE FROM WALTHERS' MODEL

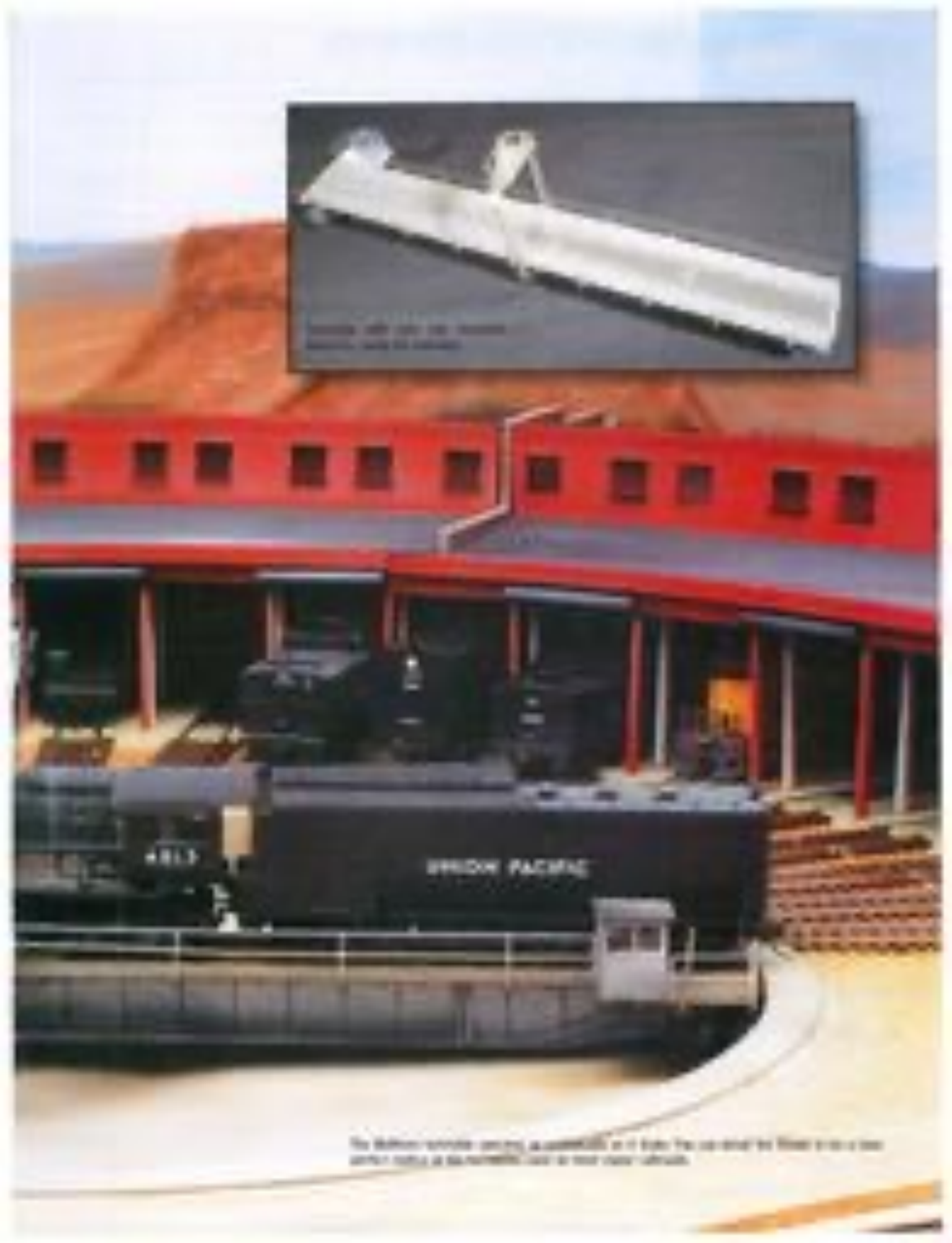
By Steve Orth

In 1940 Union Pacific was already preparing for the looming war. Traffic projections and accelerated applications of the massive 4-8-8-4 Big Boy locomotives to every freight run on the Wasatch grade in eastern Utah to accommodate the big behemoths. A total 1224-and-Big Boy locomotives, Union Pacific received about 1,510 new and plus grade examples, based in Cheyenne, Green River, and Ogden. Later, in 1943, a 1,510-foot example was erected in Los Angeles. The existing turntable in Cheyenne, in Omaha, was sufficient to turn the Big Boys and two classes.

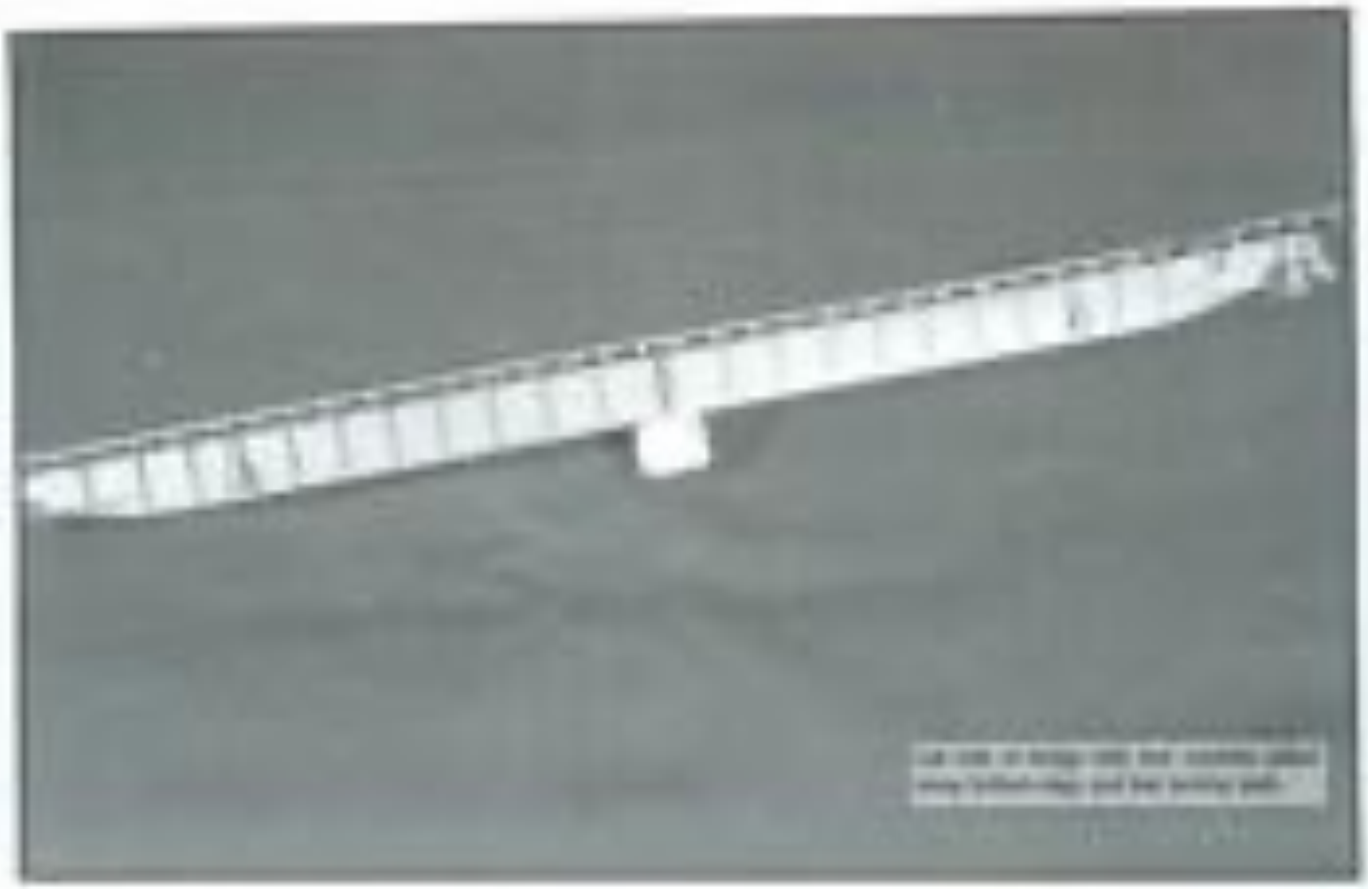
Walthers Turntable

Walthers recently released a 1/8-inch-to-1-foot-scale model of the 1,510-foot turntable. The model is offered in both HO and N scale. The turntable comes completed and painted, and it includes the pit bridge, rails, and all the mechanisms needed for precisely indexing. The design is brilliant in its simplicity. The pit and rail are actually injection-molded plastic. In the turntable bridge, a small gear motor/drive system drives a gear that rides in the pit rails. The motor also

THE 'BIG HOUSE' FOR THE BIG BOYS


UNION PACIFIC

THE 'BIG HOUSE' FOR THE BIG BOYS



How to add operating headlights and taillights to the rear of your train

by Philip A. Greenberg

Directional lighting for your MTH subway set

A Although some MTH subway sets have only a single car with working headlights, you can easily add tower lights, taillights, and marker lights to provide safe passage for the subway or elevated.

Like me, a lot of you model modern MTH O-gauge multiple-car subway sets and designated the directional switch. Moreover, unlike the previous set of cars, the most recent run of seven MTH subway sets in the early 21st century came equipped with directional headlights.

Nonetheless, there are still a lot of the older subway sets in use on layouts around the country. Most of these sets have only one car with a headlight, and the rest of the cars are dark. Some of these cars have a single taillight, but most do not. Some of the cars have a single marker light on each end, but most do not. Some of the cars have a single tower light, but most do not.

I decided to add operating headlights and taillights to the rear of my train. I also decided to add marker lights and tower lights to the cars that did not have them. I also decided to add a directional switch to the cars that did not have one.

I started by adding a directional switch to the cars that did not have one. I used a small toggle switch that I had on hand. I mounted the switch on the side of the car, near the end. I ran a wire from the switch to the car's frame. I also ran a wire from the switch to the car's motor.

I then added a headlight to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the top. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a taillight to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the bottom. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a marker light to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the middle. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a tower light to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the top. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a directional switch to the cars that did not have one. I used a small toggle switch that I had on hand. I mounted the switch on the side of the car, near the end. I ran a wire from the switch to the car's frame. I also ran a wire from the switch to the car's motor.

I then added a headlight to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the top. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a taillight to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the bottom. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a marker light to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the middle. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a tower light to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the top. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a directional switch to the cars that did not have one. I used a small toggle switch that I had on hand. I mounted the switch on the side of the car, near the end. I ran a wire from the switch to the car's frame. I also ran a wire from the switch to the car's motor.

I then added a headlight to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the top. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a taillight to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the bottom. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a marker light to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the middle. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

I then added a tower light to the rear of the car. I used a small LED that I had on hand. I mounted the LED on the end of the car, near the top. I ran a wire from the LED to the car's frame. I also ran a wire from the LED to the car's motor.

PREPARING THE POWERED CAR

MATERIALS

- Electrical tape
  Black rubber
- Miniature wire connectors
  Insulated four-port (Mouse Wire connectors have plenty)
  Qty. 50 (AM-2)
- Wire (in assorted colors)
- Radio Shack telephone wire tap connectors
  (16-on-16 gauge wire) cat. no. 64-3030
- Radio Shack telephone wire splice connectors
  cat. no. 64-3060

1 **Identify which leg you'll remove** the cover from the powered car by first tracing the instruction manual steps for changing light bulbs. Next, remove the cap-shaped housing that holds the circuitry and motors. You'll need to expose the connectors that lead to the exterior lighting before you can locate and identify the wires that go to the headlights. Be aware that some subways will use plug-in connect-the-wire boards and lights, while others have a spring-loaded contact system.

Note the typical wiring pattern used to fabricate subway cars. The purple wire is the common, the green is for the tail lights, the light blue is for the headlights, and the dark blue is for the marker lights. Sometimes a common wire for all three sets of lights, you'll need only a four-wire tether to connect the new lights.

2 **Plan wire connections.** Before connecting the tether to the existing wiring, I planned out the entire wiring scheme. The purple wire connects to the white striped wire of the tether, and the dark blue wire for marker lights connects to the main tether wire. The green wire for the taillights connects next to that, followed by the light blue wire for the headlights.

Note the wiring sequence, as it will change when you wire the rear car. As this scheme shows, the green wire for the taillights of the powered car ultimately connects to the headlights on the tail car. Similarly, the light blue wire for the lead car's headlights connects to the taillights on the rear car.

By connecting the wires for the headlights to the taillights and vice versa, we can use the circuitry of the powered car to control the rear car's lights, but in reverse order. When a train moves forward, the circuit board powers the headlights of the lead car and the taillights at the end of the train. And when the train runs in reverse, what was once the rear of the train should now have (from-the-seat) headlights.

3 **Making the connections.** The technique used to connect the tether to the appropriate wires is called "tapping in." You can purchase wire tap connectors at any Radio Shack or similar electronics store, but be sure to ask specifically for telephone wire tap connectors. These are designed for this installs. 19- to 20-gauge wires used in allure systems.

Now, look for an appropriate location to use a tap. When removing a cover, to tap, consider the length of wire from the tether which routed through the wheel well and the location of the interior and cover parts. Also consider whether the tap will interfere with any of the interior contacts. Answer these questions for each car, carry, and you're ready to start tapping in.

The photo on the right shows how I connected the headlight by sliding the green wire into the slotted side of the tap. It may be a tight fit, so be sure it's completely in before proceeding. Next, I took the corresponding wire from the main group (either dark green) and inserted it into the hole on the other side of the tap. When the wires were properly set, I used pliers to clamp down and close the tap. I repeated the process to tap the wires powering the marker lights and taillights.

In the event that you can't find a place to add a tap connector, there's another way to make the necessary connections. Trace the powered car's wires back to the circuit board,

as shown in the photo to the left. There you'll find a plug-in wiring terminal that includes the wire for the common, marker lights, headlights, and taillights. It's not quite as easy as using a tap connector, but you can remove wires from these terminals in order to insert additional wires for the wires.

WARNING: Always be careful not to leave any wire connections exposed. Also, over-heat these modifications will void any manufacturer warranty.

WORKING THE REAR CAR

4 **Test and install the light bulbs.** When you bulbs have got each set of lights — marker headlights, and taillights) across from the MTH parts department or authorized dealer, they'll come with a plug that you'll need to remove for the process. Test each bulb, then put them into the vacant sockets at the end of the new car.

Although you can try to adjust the light bulbs without removing the colored jewels, my efforts were unsuccessful. Eventually, I returned to use an awl to apply pressure to the back of the jewel and force it through the hole.

With the jewel but more the way invert a light bulb into the upper one. Wrap one end with a coordinating color of electrical tape to secure it in place and keep the light from showing on anything else it.

The car. Now reinsert the jewel into the model.

5 **Wiring the bulbs.** Starting with when the first set of lights, I twisted one lead from one light bulb as one lead of the other light bulb and connected them to the corresponding wire from the other. I repeated these steps with each set of lights, using the colored electrical tape to help me keep track of my common wire connections.

I then gathered the six (gasp!) leads from the bulbs, stripped them together, and inserted them into the phone-splice connector along with the other common wire from the skirted. You don't necessarily need the phone-splice connector, but it helps keep the large volume of wire securely in place.

6 **Test the connections.** Before I clamped down the splice connector, I connected the skirted to the lead car and tested the six leads. The lead car doesn't need to be on a track, as the power for the lighting system comes via the skirted to the powered car. Be careful not to let the powered car run off the track when you switch directions.

When you know which of the connections are functioning properly, mating the phone-splice connector with needlenose pliers and squeeze the electrical tape or wire connection just to be sure things stay that way. Plug in the power back on the that car, but be sure not to pinch or screw into any wires.

CONNECTING MIDDLE OR TRAILING CARS

7 **Adding more cars.** Adding more cars to a train is as easy as splicing a few more wires together and extending the lighting through the new car.

You'll need an extra two-wire plug and a two-wire connector set together. Both the male plug and the female plug are have about 12 inches of wire, so you can cut just one of the sets to length. I like to have a little extra just to give in tight radius curves, so I cut about 6 or 7 inches away from one side on the other.

Be sure to remember to connect the white-striped wire on the other striped wire, the next wire to the next wire, and so on. Test them in your train. Then proceed with the wiring of the car, and slide the plugs through the access holes and above the couplers. After wiring the current again, reconnect the car.

Your subway train will be ready to carry just more customers.

SR brake van in 0

Built from the Parkside Dundas kit

IAN KIRK presents another set of construction guidelines for 7mm scale railvehicles.

TTGX AUTO RACKS FROM RED CABOOSE N SCALE OR WALTHERS HO SCALE MODELS

By David Goodwyn

TTGX AUTO RACKS

TTGX 605127. Many of the cars would see extensive use in public displays, wearing a variety of liveries. This 53' Rail Car was also commissioned with the primary and white reflective surface.

Ryan Zdanow introduced a nice variant of the prototype auto rack in N scale in 2016. The model has many attributes Trainworld fans will love to see, many available in very small

1. Fine, prototypical details on the underframe – the valve style and centersill, ladders, and the sill steps with turned treads. The sill steps also accurately the 4x4 in. (nominal) planking.

2. Operable opening doors. The car comes in models in pairs and matching or solid doors/sides models. Honestly, there's nothing more cool on many trains of TTGX or which really work. The operable doors, and also the operable open doors to increase the unloading activity.

3. Multiple and separate connectors at the logo panels and have respective differences.

And to this the answer the comments and evident reality out through search that you shortly no this as the prototypes exactly be it modeled in N scale.

There are some examples of the prototypes for the Red Caboose two racks. Black logo panel location is determined by a blue one location present. The top row of panels have the "G" now, followed by the "R" one rounded three cars on. The collection the numbers of cars left or right. It is their road on absent at that is random elsewhere the car numbers, but the cars have varied the reinforcement and roadnos.

TTGX [illegible] boxcar/auto rack color display. On viewing railroad's logo. See the TTGX rack.

TTGX 605105. One of the remaining CPR racks. A rare to find panels but also features a very faded CPR logo at the car's end.

TTGX 605105 is the most common CP scheme. Some Pacific cars carry on any, generally speaking the most common road seen cars at this 53' car passing through Scottdale, Pennsylvania. Note the same side panels.

TTGX 605105. A CPR rack in a little earlier image. Also TTGX reporting. The plus insulated one of the sides of the Red Caboose often have the car.

GWR Siphon J for N gauge

Brass etches by Wallard formed the basis

This model of an Ayah-sided 'steam' vehicle was built and is described by **PHIL JOHNSON**.

Cross section of side

Roof Profile

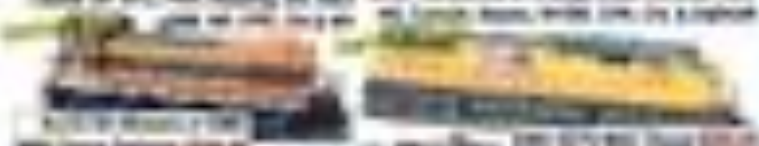
O Scale Junction
1758 Lafayette Road NW
Newark, OH 43055
Horizon Cell: (740) 403-5577
Fax: (740) 809-4174
sales@OscaleJunction.com

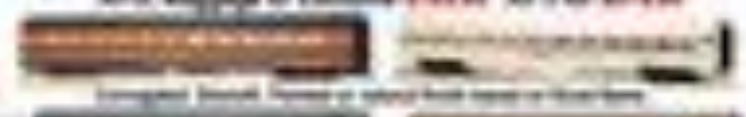
Open M-Sat, 10:30-6 EST

800-311-0468

OSCALEJUNCTION.COM

Sale items subject to limited availability





1:29 Scale PRR ArtistoCraft Brass NSc Caboose & Khando K-4 Pacific 4-6-2 $1,570.00

Khando K-4 Pacific 4-6-2 Options

Cat # 1128 (PRR #6960) or Cat # 1161 (Post-WWII) $1,399.00

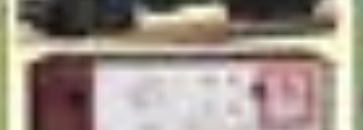
ArtistoCraft Smoke Unit (Fan shown) installed $99.00

Phoenix (NJ Sound) installed $399.00

With DCS ProtoSound 3 digital control & Smoke unit installed $699.99

Value Starter Set

Barrel Kits



Garden Railways buyer's guide to

LARGE-SCALE STRUCTURES

The selection has never been better

compiled by Ken Patterson

Scenic Creek Rooms
[illegible]

Scales offered: 1:24
Structures made out of: Plastic
Structures are: Ready-to-use and suitable for outdoor use
Types offered: Railroad related, town landmarks, misc. miniatures
Sizes: [illegible]
Total structures in line: [illegible]

Bridge Hunters
[illegible]

Scales offered: 1:24
Structures made out of: Plastic
Structures are: Ready-to-use, painted and suitable for outdoor use
Types offered: Commercial, railroad related
Sizes: [illegible]
Total structures in line: 10

Tennessee Valley Architectural Models
Distributed by Three Star Model Railroad Company
[illegible]

Scales offered: [illegible]
Structures made out of: Wood
Structures are: Kits, completed, and suitable for outdoor use
Types offered: Commercial, railroad related
Sizes: [illegible]
Total structures in line: 3
Comments: Manufacturer offers new lines of structures, one for beginning builders and one designed for more advanced modelers. They also sell accessories such as detailing and corrugated roofing.

Colorado Model Structures
[illegible]

Scales offered: 1:24
Structures made out of: Plastic
Structures are: Equipped kits; suitable for weathered use
Types offered: Commercial, railroad related, residential, other
Eras: 1840-1930, modern
Total structures on Hand: 4

Dietz Depot
[illegible]

Scales offered: 1:29, 1:48
Structures made out of: Wood
Structures are: Kits; equipment and painted ready-to-use; both suitable for weathered use
Types offered: Commercial, commercial-residential, farm-ranch-rural, modern rail, city, other
Eras: 1890-30
Total structures on hand: 30
Comments: Buildings are made of cedar with cast resin detailing and more

---

Gardner Structures
[illegible]

Scales offered: 1:29, 1:24, 1:20.3, 1:18.1
Structures made out of: Wood
Structures are: Kits; unpainted; suitable for weathered use
Types offered: Diner/cafe, service-station/garage, motel/hotel, etc.
Eras: 1920-50
Total structures on Hand: Over 100
Comments: Structures are only manufactured supplies, including water towers, trucks, weather vanes, flags, decks and airplanes. Customers choose each and build themselves, and more.

Name, Scale
[illegible]

Scale(s) offered: [illegible]
Structures made out of: Wood
Structures are: Painted and weathered to only available for outdoor use
Signs offered: [illegible]
Price: [illegible]
Total structures in line: One, [illegible]
Comments: Tiles, [illegible] and list [illegible] on display. Other [illegible] any sign can be made for the buyer's specific [illegible]

Name of Railroad
[illegible]

Scale(s) offered: [illegible]
Structures made out of: Wood
Structures are: Kits, [illegible], [illegible] for outdoor use
Signs offered: [illegible]
Price: [illegible]
Total structures in line: 7
Comments: Manufactures also sells [illegible] and accessories

L.D. Woodworks
[illegible]

Scale(s) offered: [illegible]
Structures made out of: Plastic, metal, [illegible]
Structures are: Painted and built to use, available for outdoor use
Signs offered: [illegible]
Price: [illegible]
Total structures in line: 30
Comments: Manufactures [illegible] kits [illegible] with [illegible] to also [illegible] [illegible] Also assembly or [illegible] are painted and [illegible]

Signature
PO Box 23
Wheatgo NY 13684
www.signaturecoop.com

Kraków silkscroll Any scale
Structures made out of N, X
Structures are Mainly for carrying
Rogue silkcroft Commercial, industrial, farm-to-fork food, problematic city police
Since 1999–1992
Total structures to buy N, X
Considerations Manufacturer sells models and materials for easy-to-build, new-train-friendly scenarios. Great packs, such as skylighter dwelling, and cotton shakers, are also available.

Sly Kiddie Supply
1234 Training Rd
Caterville CA 99911
www.slykiddiesupply.com

Kraków silkscroll Action-oriented
Structures made out of Wood, plastic, metal
Structures are Armored and ready to use, suitable for outdoor use
Rogue silkcroft Commercial, entrepreneurial, farm-to-fork food, problematic city police
Since 1999-present
Total structures to buy 21
Considerations Manufacturer sold its entire tag name region of structures once. Set catalog, some fall in additional depots.

Additional manufacturers

The following companies also offer large-scale structures that could be appropriate for use before 1 grade. Please contact these directly for more information on their products.

Caldwell Construction Co.
PO Box 7872
Kingsville TX 78363
www.caldwellconstruction.com

Kingsbridge Industries
PO Box 2000
Kingsbridge NY 10463-2000
(718) 555-2000
www.kingsbridgeindustries.com

Kirk Scale Buildings
1600 Depot Lane
Clinton KY 42031

Michael's Custom Woodworking
123 N. Walnut
Lewisburg KS 66531

Railroad Express
123 Railway Ave., Suite 10
Springs CA 90405

Rivers Railroad Plans
1234 Evergreen Dr.
Spokane WA 99208-1234
www.riversrailroadplans.com

Sandra Pickens
PO Box 99999
Charlotte NC 28277
www.sandrapickens.com

Signature
PO Box 23
Wheatgo NY 13684
www.signaturecoop.com

Sutherland Steamworks
PO Box 94023
Denver CO 80290
www.sutherland.com

Swampworks
PO Box 100
Mud Hole MS 39740
www.swampworks.com

Plans

These manufacturers offer plans for large-scale structures. Please contact them directly for information on their products.

Woodie Scale Models
[illegible]
[illegible]
[illegible]

Scales offered: [illegible]
Structure made out of: Wood, resin
Structures are: [illegible]
Signs offered: [illegible]
Sizes: [illegible]
Total structures in line: [illegible]
Comments: [illegible]

Pacific Coast Garden Railroad Supply
[illegible]
[illegible]
[illegible]

Scales offered: [illegible]
Structures made out of: Wood
Structures are: [illegible]
Signs offered: [illegible]
Sizes: [illegible]
Total structures in line: [illegible]
Comments: [illegible]

Other
[illegible]
[illegible]
[illegible]

Scales offered: [illegible]
Structures made out of: [illegible]
Structures are: [illegible]
Signs offered: [illegible]
Sizes: [illegible]
Total structures in line: [illegible]
Comments: [illegible]

Atlas O
[illegible] Dr. Ste. E. Wallace, Inc.
[illegible]
[illegible]
[illegible]

Scales offered: 1:43.5
Dimensions scale not at: Point
Dimensions are: Kits, painted, and
[illegible]
Buyers offered: [illegible]
[illegible]
Email: [illegible]
Total structures to date: 20 +
Considerable: [illegible]
[illegible]
[illegible]

Large-scale structures scales at-a-glance

Manufacturer	1:20	1:24	1:29	1:32	1:32.5	1:35.5
[illegible]			●			
[illegible]			●			
[illegible]		●				●
[illegible]			●			
[illegible]		●				●
[illegible]		●	●		●	●
[illegible]					●	●
[illegible]		●	●			
[illegible]	●	●	●		●	●
[illegible]*	●	●	●		●	●
[illegible]**						
[illegible]**						
[illegible]			●			●
[illegible]					●	
[illegible]					●	
[illegible]			●			
[illegible]			●			
[illegible]						●
[illegible]						●
[illegible]**						
[illegible]			●			

*Structure component by one scale not by scale or a series of materials from the company's model. **Re-sale specified by manufacturer.

Keystone Bridge Kits
Kirby Kaczorowski, Bridge Tender
Lakeland, CO 80000
www.keystonebridgekits.com

Scales offered: 1, LR
Structures made out of: Pressure-treated lumber
Structures are: Kits; available unassembled, unpainted, primarily for outdoor use
Types offered: Commercial, municipal, residential, semi-rural railroad related
Sizes: 4'-8'L, 1'-2'W
Total structures in line: 3
Comments: Pre-assembled kits are complete with windows, doors, metal trim, and material to shelter, secure, glaze, and complete construction. Several new designs just in the works. Check the web site for new additions.

Sandy Road Junction Railroad Products
1234 Jolly St. 17B
Anytown, NY 11111
www.sjrr.com

Scales offered: 1, LR
Structures made out of: Wood
Structures are: Kits, unpainted, suitable for outdoor use
Types offered: Commercial, industrial, railroad related, residential, etc.
Sizes: 1'-3'L, 1'-2'W
Total structures in line: 24
Comments: Focus kits on "old West" style but most are suitable for later eras.

Flume Line (Classic Models Inc.
PO Box 123
Shutesbury, MA 01072
www.railroad.com

Scales offered: 1, LR, 2
Structures made out of: Wood, metal
Structures are: Ready-to-run, painted, suitable for outdoor use
Types offered: Railroad related
Sizes: 1'-3'L, 1'-2'W
Total structures in line: 3
Comments: A mountaineer and his different ways.

Miniature Scale Models
[illegible]
[illegible]
[illegible]

Scales offered: 1:22.5
Structures made of: Wood
Structures are: Kits; custom-[illegible]
Types offered: Commercial, [illegible]
Sizes: [illegible]
Total structures to date: [illegible]
Comments: "My two newest [illegible] should be ready by the time this article goes to press.

Nick Brian
[illegible]
[illegible]
[illegible]

Scales offered: [illegible]
Structures made of: Foam
Structures are: Kits, [illegible]
Types offered: [illegible]
Sizes: [illegible]
Total structures to date: [illegible]

[illegible]
[illegible]
[illegible]
[illegible]

Scales offered: [illegible]
Structures made of: [illegible]
Structures are: [illegible]
Types offered: [illegible]
Sizes: [illegible]
Total structures to date: [illegible]
Comments: [illegible]

World's Greatest Hobby on Tour

Over 100,000 attended last year!

For more information Contact:
World's Greatest Hobby on Tour
www.sgtshow.com

Dates & Locations

Great Train Expo

Opening Summer 2007

- Over 500 Tables
- Huge selection
- Must-go hobby shows
- Fun attraction for kids

Saturday & Sunday
10am to 4pm
Adults $7
Juniors (16 and under) $3
Free parking
Free clinics and kids area

GREAT TRAIN EXPO

Web: www.greattrainexpo.com

CHICAGO

Modeling a Union Pacific passenger train in N scale

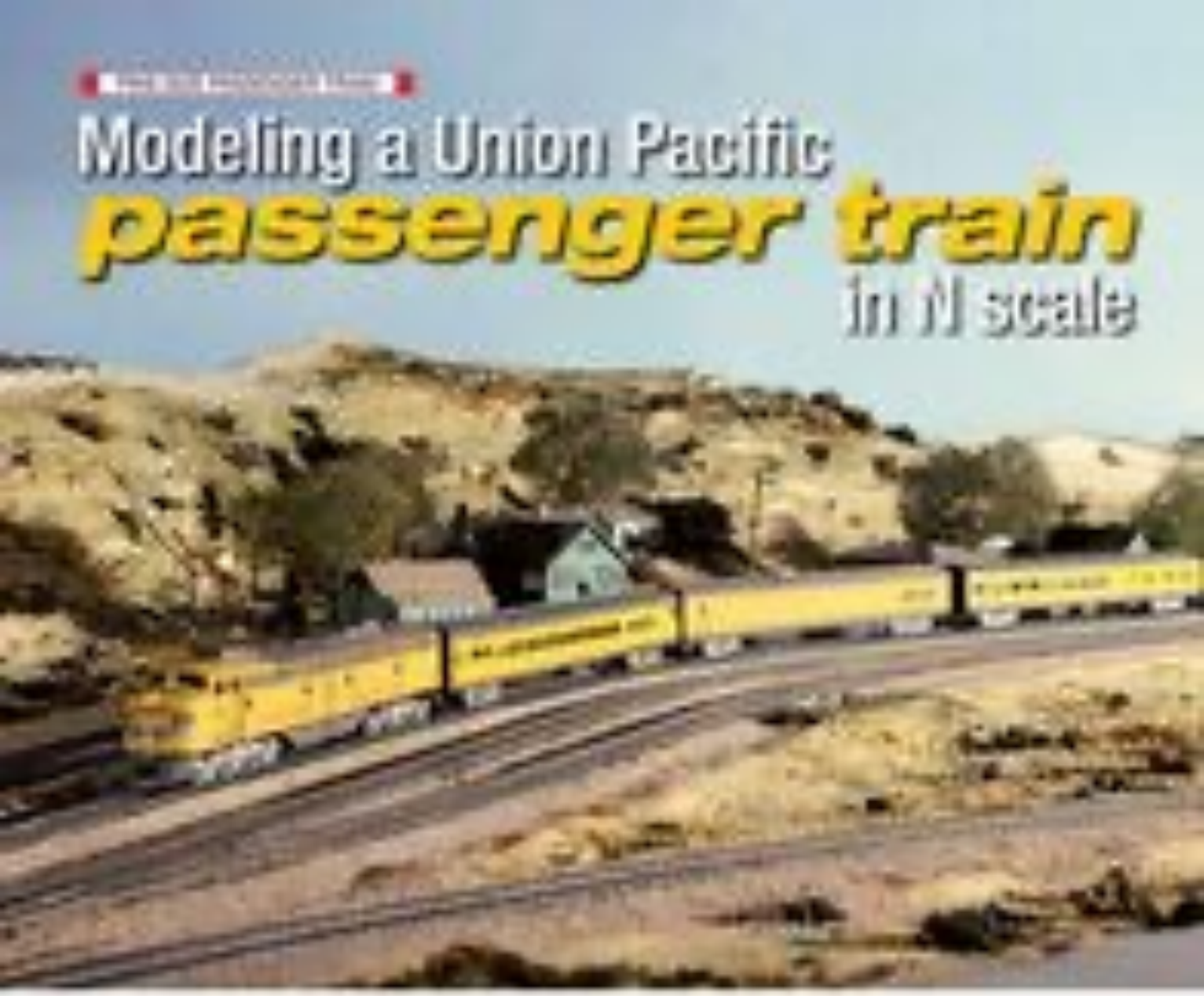


Fig. 1 Kitbash model car sides. Roberto Warren adds N scale car sides kits for the chair car (top) and club lounge car (bottom). These kits include many details, such as stirrups, hand grabs, and antenna stanchions for the club lounge car.

Build the *Las Vegas Holiday Special* streamliner with car sides and core kits

By Bill Pearce
Photos by the author

For railroad enthusiasts who were glamorous and truly lived a prototypical existence, a scale model of Union Pacific's City of Los Angeles that took a consist of two E-units hauling 12 cars a handful over rain or ice like weather was a Kalmi Pine Grove. Waiting out Denver's six months' time I found that scaled long cross-continental trains was okay but it was. Then I discovered my complete, the Las Vegas Holiday Special.

The train would take two passenger cars and a lot in the March 1956 issue of Model Railroader included the 21'6" Bill in N scale, the cars would scratch-plate cross-flues and Central 40-foot automobile cars. While these cars could be "close enough" substitutes, I wanted to accurate model.

Luckily for me, two manufacturers have released prototype-specific passenger cars since the 21'6". These cars to date a passenger car cars are short prototype parts to build the cars, roofs, underbody, and trucks. Yes, the dimensions on the cars was. Long exchangers that apply to one passenger car cars kit as well available project. I built an N scale model of the "Train Set's Special" a train that served well to be a test bed for the LV trains.

L-A to Sin City

From 1956 to 1971, Union Pacific's Las Vegas Holiday Special" and gambler's and tourists between Los Angeles and Las Vegas. A Pullman-Standard two-piece portholed Budd-car lightweight served the cross laterally by 1971 L-A replaced the streamer with two E9s, a baggage car, four chair cars, a lunch-counter diner, and a dome lounge car. Because of increasing competition from air and passenger travel, ridership steadily declined and the trains

By 1984, UP reduced the LVHS to a single E unit, three chair cars, a lunch-counter diner, and a ride-lounge car. Diesel were a mixture of cars. Pullman-Standard built the chair cars in 1947. Bettendorf Car & Foundry built lunch-counter diners, dome lounge cars from 1949 and ride-lounge cars from 1950 to 1956 or 1957.

Accurate car sides

Car sides are commonly available to build an accurate 1956-era LVHS consist. Kadee models Reference Blueprint sells etched-metal car sides for the 1949-series chair cars and the 1946-series ride-lounge cars, as shown in Fig. 1. You can find a complete line of the car side kits at the Kadee N scale. Kadee has their dynamic suspension gimbal mounted on a separate fitting so the trucks don't on a separate fitting so the heavily detailed car side kit include some separate applied wire such as the rings, railings, and wire grab bars for the vestibule side windows of the lunch-lounge car.

For the 1956 train, I found a car sides kit from American Model Builders, Inc. the finished model in Fig. 2. These sides are made of clear laser-cut acrylic plastic, as shown in the bottom photo. You can choose the kits separate parts, so I made the two baggage cars from 1949 heavyweight and added scratch-built vestibules from Grandt Model Models.

I took all of the cars to two sides, sanded the shell level ends, and added the underframes, including the interior floor tracks, and couplers.

Fig. 2 Plastic car sides. Car sides for the lunch-counter diner are available from American Model Builders in N and HO. These clear acrylic sides have a paper covering that must be removed prior to painting.

Fig. 1 Passenger car core kit. American-Limited Models N scale 85-foot passenger car core kit parts with plastic or metal sides.

Fig. 2 Detailed underbodies. All kit cars this include many separately applied underbody detail parts. Bill also added body-mounted couplers.

Assembling the shell

Both the Walthers and AHM cars were in an Executive Limited Models 85-foot passenger car core kits. The kit is shown in Fig. 3. Both the cast kits and the cut-side kits include an instruction sheet with assembly diagrams.

First, I assembled the car ends with plastic cement. I applied Micro Kristal Klear to the Athearn diaphragms to hold them in a slightly compressed position. Then I attached the ends to the roof.

It's important to test the fit of the car sides to the core before gluing them in position. The sides should be square against the ends and a tip-indicator on the underside of the roof. Because etched-metal sides are often thinner than plastic sides, the cast kit sometimes requires you shave the roof lip and ends if needed for a tight fit. Satisfied with the position of the sides, I glued them in place, using plastic cement for the AHM sides and cyanoacrylate adhesive (CA) for the Walthers sides.

With the body assembled, I added metal detail parts, such as grab irons and stirrups, using CA. The plastic car sides provide tool holes to drill the more detail parts, while grab iron positions are marked with an inset in the Walthers metal sides so I had a drill more holes using a no. 78 bit as a pin vise.

Window glazing was included with the car side kits. I made some from color-balancing light filters, but you always have the more liberal assistance to apply kit. Whatever material you choose, don't add the glazing until after painting the shell.

Painting tips

The shell is ready to be painted and assembled. The sides, ends, and roof halves passed the fit. I then brushed, what I'd considered the shell. I had a can of glue and a can of spray the roofline that I had to fill.

A better approach is to prime and paint the parts with a base coat of wood brown paint primer and Testor Dull Coat for the CP cars. Build the shell then hand-painting and detailing. Then the car can be set and the bottom finishing the paint and weld. Testing on explosive tape.

I tried to paint the spring portions of the diaphragms, but there's no mask of metal plastic and designed to fit in the end plate to be paint soft.

I heavily weather my freight cars and locomotives, but for the passenger equipment I have at the end of CP's passenger service, the railroad kept its passenger cars clean. We gave our coaches assigned and the ends of cars I unbranded a light coat of dark color on the car ends. Also applying decals, I gave each car a light misting of flat coat to cut down the gloss level.

Basic passenger car sides/core kit assembly

Building the underframe

Brass cars are best grades available in underbody detail, but AHM cars lack separate underbody parts, although one we found a specific prototype (see Fig. 4 in following) diagrams in the book *Trains Rarely Remembered* (Bronze Valley Publications, 1979) to place the parts on their prototype-based locations. Although friends call me a train nerd, I didn't add pre-underbody piping.

The car core has cover with truck attachment and fasteners. These parts keep suppliers, but they have to cover bolts attached to keep the finished truck secure. Adding a 4 to a 6-lb weight to the car

Fig. 4 Woodland's work on Bill supermodeled a Kato E8 to match a specific prototype and his layout's 1960 era. He added some detailing, a three-chime horn mounted above an exhaust outlet, and other details.

Use photo filters for easy tinted windows

Simulating tinted window glazing on a model is always challenging. Some modelers try to use plastic films; others just give up and settle for clear styrene.

The real car ranges midway between that problem with a slight green tint. Masking the windows to let just the exterior show, the other parts of the cars I found that light-balancing filters used by cinematographers make realistic tinted windows for models.

These filters are transparent plastic sheets used to adjust lighting conditions. The sheets are available in different colored tints. For blue tinted windows, I recommend Rosco Roscolux no. 3216 eighth blue, and for gray tints I'd use Rosco Roscolux no. 397 pale gray.

For my green tinted windows, I use Rosco Roscolux no. 3218 tough 1 plus green. Against a white surface, the tint looks too green, but on a car the color isn't as pronounced. I trim strips from the sheet and place them to the inside of the car side with Krylon matte sealing the body to the underframe. On a finished model, the green tint is a near-perfect match to the prototype.

Light balancing filter sheets are available at theatrical supply houses and photographic supply stores. For around $6 you can buy a 20 × 24 inch sheet. That's a lot of fit scale windows! – B.P.

Materials list

Accu-paint
ap1 Aluminum
ap1.2P Antique Yellow
ap1.2P Hazelnut Tahiti Gloss
ap1 Metal and plastic primer

American Limited Models
no. 4020 N scale 85-foot passenger car (you'll do 6 Pullman and 4/2 Observation cars (3)

American Model Builders
brass union frame, knife valves
(you'll consider other car sides (4)

Gold Medal Models
detail castings and antenna mounts
for Kato streamlined passenger cars

Kato
no. 106 or 101-1P-106

Micro-Trains Line
no. 1015 assortment #2 (4 regular wheels couplers (5 pair)

Micro-Scale Decals
108 Diesel E and F units
110 Micro Scale Inks
910 Yellow and gray passenger cars

Polaroid Marker
brass frame, knife valves chair car sides (4)
brass frame, knife valves vista dome car

Testor's paint
1918 Metalizer Aluminum
1966 Silbrite

Miscellaneous
cyanoacrylate adhesive (CA)
plastic cement
2mm tape
window glazing

ce position. I painted the inside body floors in Metalizer Aluminum.

The kits come with interior/passenger details, but I replaced them with Gold Medal parts and attached the former appliances.

Although the cars kits don't come with them, you can install rather crude simulated or functional couplers. I used Micro-Trains Line no. 1015 couplers. For a more accurate appearance, I'm not a scale purist.

Final assembly

The shell needs to be securely onto the underframe, but a slip fit is necessary so that it can make repairs or add weight. I attached the shell to the underframe with a light application of Micro Krystal Klear so that I could still easily take the shell off the underframe for maintenance.

For short trains using car sides and cars with kits, use the two-part article "Building passenger cars from cars" by Paul Mallon in the March and April 1966 issues of *Model Railroader*. (Both parts are available in the Information Source 998 document beginning on page 6.) Click on "Downloads" at kalmbachhobbystore.com for more information. – Ed.)

The finished consist

I may glance at reference (I may do that in the following order: coach, head-end cars, diner, club lounge, and the observation coaches. My E7/E8 consist of coach-coach-diner-coach-club lounge-coach-coach-coach. Then I add the end cars.

I experimented a bit with the E7 to find the E8/B, as shown in fig. 5, adding extra horizontal handrails, a horn chime here, and other prototype specific details.

It's not the Future Pacific's signature consist, but the Los Vegas Railway Express is a glamorous streamliner that was actually run on the Santa Fe and not on on a duplex stand. NMR

Bill Rosen is a freelance writer and photographer. He resides the Fresno Pacific and Upper Pine in N scale.

Where will Ed Burkhardt turn up next?

When you run a worldwide railroad business, who knows where a good interstate might take you?

by David Lustig and Matt Van Hattem

The savvy railroad investor knows it's all about timing. What kinds of opportunities are out there? Can you come in under the gun? Only about 15 minutes are left.

Ed Burkhardt knows plenty of all those things. Having owned and operated railroads around the world, Fortune worked to Burkhardt's home right next door, where the Rolling Stones of railroads are rolling stock to promote its railroad.

"It happened to come along when I was looking for something," said Burkhardt who, while buying the Wisconsin Central from entire over, newly privatized operations in New Zealand, Australia, and the United Kingdom. "When you're acquiring these properties, you can't do it like a townsfolk. The people who were selling were offering... and I knew how these things worked." Burkhardt negotiated a deal through Wall Street Inc., the international rail investment business he founded in 1999 after leaving GE. He also brought in other investors.

"It was much too big for me to handle," Burkhardt said. "We managed operating the railroad better so we were doing better. The day they turned it over to us was when I knew enough cash to pay them bills." Burkhardt assembled Rolling Rail Investors, a consortium that included Bob Wolfe and acquired 68 percent of the Delaware Railroad on May 15, 2003. Operations began the very day Dallas area privatization. Rolling Rail Investors got both the track and the freight service franchise (short passenger operations also run the railroad).

So how does a railroad investor make a success of his investment? The key, Burkhardt said, is to invest enough capital in order to make improvements. Not just on track that you own while you're doing it. A partnership consisting of the Canadian provincial Indigo Inc. and Burkhardt is going to make "real working with the Minnesota commuters. See have a good experience. Together they [illegible] operations and, yourself... to capital [illegible] with established rail operations [illegible] business gains. "It has been working a great thing for us," he said.

However, the town are the agreement. Burkhardt said, a deal is made by officials the Minnesota government's position on who should operate the railroad and how. "We

Rail World around the world

Start-up	East Doorlink, a former Railtrack subsidiary	Rail Polska, Rail Poland
Operations began	2005	2002
Route miles	414	2,485
Employees	1,400	450
Tonnage, p.a. (UK)	64.3 million	11 million
Gauge	4 feet	4 feet, 8½ inches
Locomotives	172	8
Cars	4,018	1,200
Commodities	Oil, aluminum, grain, coal, containers, timber, products	Coal, iron ore, petroleum, agricultural goods
Ownership	60% private, 40% government	100% private
How it works	Licenses Railtrack, owns the infrastructure and provides freight services. A government-backing engine lender has authority over rail loading and speed limits (i.e., how many locomotive freight operators may access the rail grid, how many trains can run, etc.)	Rail Polska is one of at least 30 companies competing for rail cargo services. It is also one of several companies that own rail infrastructure and operations

An EMD3 arrives at Warsaw with Rail Polska's first scale train from Germany, May 5, 2006.

government helped borrowing me," he said, "including the desired rate to make our interests more available for competing more contracts the choice both of both cost."

The government also borrowed the unit must as its place in various shocking mirror the western power. Railtrack had purchased its original external Electric costs (17 on Class Pacific (1 for 5 and 19 on 4 wheel) for Doo for Express. The lone view to Warsaw the refreshing, which included the installation of both 4 foot gauge tracks and the refurbishment of a Russian-compatible engine. But Railtrack and Warsaw officials demanded the units special a two-hour "refurbishment" process in Poland before being allowed on Warsaw Railways. Perhaps that knew meeting with government officials. Over honestly, that Poland's first president maximum and Railtrack's train ran the route to Europe, carried up the program and pressed on for Doorlink. But Railtrack, which always, [illegible], the railroads backed shorts and the 4.5% week wrought to Warsaw in week.

With the new equipment, environment condition aspect of making Doorlink's plan to get into Rail Railtrack's groups in to major Railways to sell the railroad back to the Government government in 1997, the agreement to principle that accessed in it. In 2002

Around the time Doorlink was privatizing, Poland began beginning to railroad Railtrack run up Rail Polska in 1999 to no plan investment opportunities there, and by 2002 he acquired two short-line railroads Rail Polska's Railroad Rail Rail and 2001. Those ignorants used Railtrack's access to the Polish rail network and began service to Chechen 2002. Using its Warsaw couldn Rail Polska to an agreement as a light of way carrier — and to a to coal tracks and subdivided again. The carrier owns its own rolling stock and competes with other freight operators for business on a common basis. Its one of 170 "transportations."

"We have an excellent work force and management," Railtrack said. "The business has doubled more and more 2007."

Like most operators, Rail Polska competes mainly for lucrative long-haul or mid-haul routes. "We started off with coal and now haul automobiles and other commodities. So with setting that to a 200 train, need to expanding into neighboring countries, Rail Polska runs cars throughout Poland, which the plans open deep inland to Warsaw. It also cut business to primarily full to 2007. Cargo the freight was on the Eastern Polish state railway.

Poland's government owned right of way not to reach faster stops than main cars. But the station power situation was usually bad. One of the first orders of business was to modernize the fleet.

Railtrack skipped 37 buses and diesel locomotives from Warsaw, 1,471 by 260 double-ended cab units and single-ended GM6s that operate as switcher points. The GM6s that are used per train services, the only because customers for a 4 engineering powers. The additional units' Railtrack ran over 112 power motors and replaced with EMD with engines rebuilding from a group of Rail Polska's EMD6 purchased by Rail Polska. The units were overhauled at Railtrack's Warsaw's locomotive to Atlantic ships to Chechy Motors and designed in Poland. To tune, you're were equipped with the railroad's electronic power system and sold to other Warsaw locomotive railways. Eventually, 10 Polish EMD6 and EMD3 will be on the road, with one more arriving three Rail Polska's Chechy's always every month. The railroad's other service power includes an ex-Soviet Railways TE116 2 road switchers and Polish-built train cars consisters.

Meanwhile, Railtrack is successfully going hard to head with an other operators in Poland, applying the process business formula he honed in his 7 1/2 programs.

"We're getting service and growing in a tougher competitive market that the carriers are thrive on," he said. ⊡

GNR articulated triplet

Kitbuilt in 7mm scale: part 2

CHRIS WILLIAMS constructs models of Great Northern Atlantic 0-4-4 wheeled articulated shunts

New Empire Builder Cars Now Arriving!

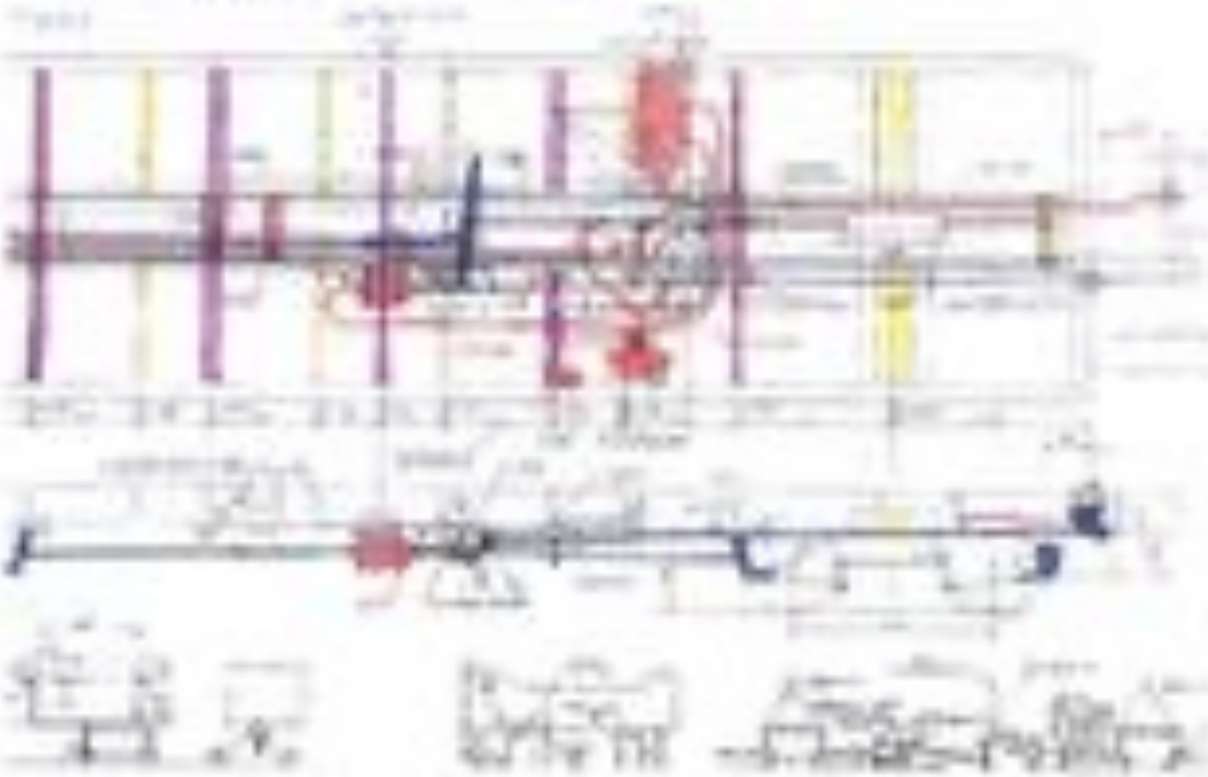
Superb Accommodations Await in 4-4-2 Sleepers

WALTHERS

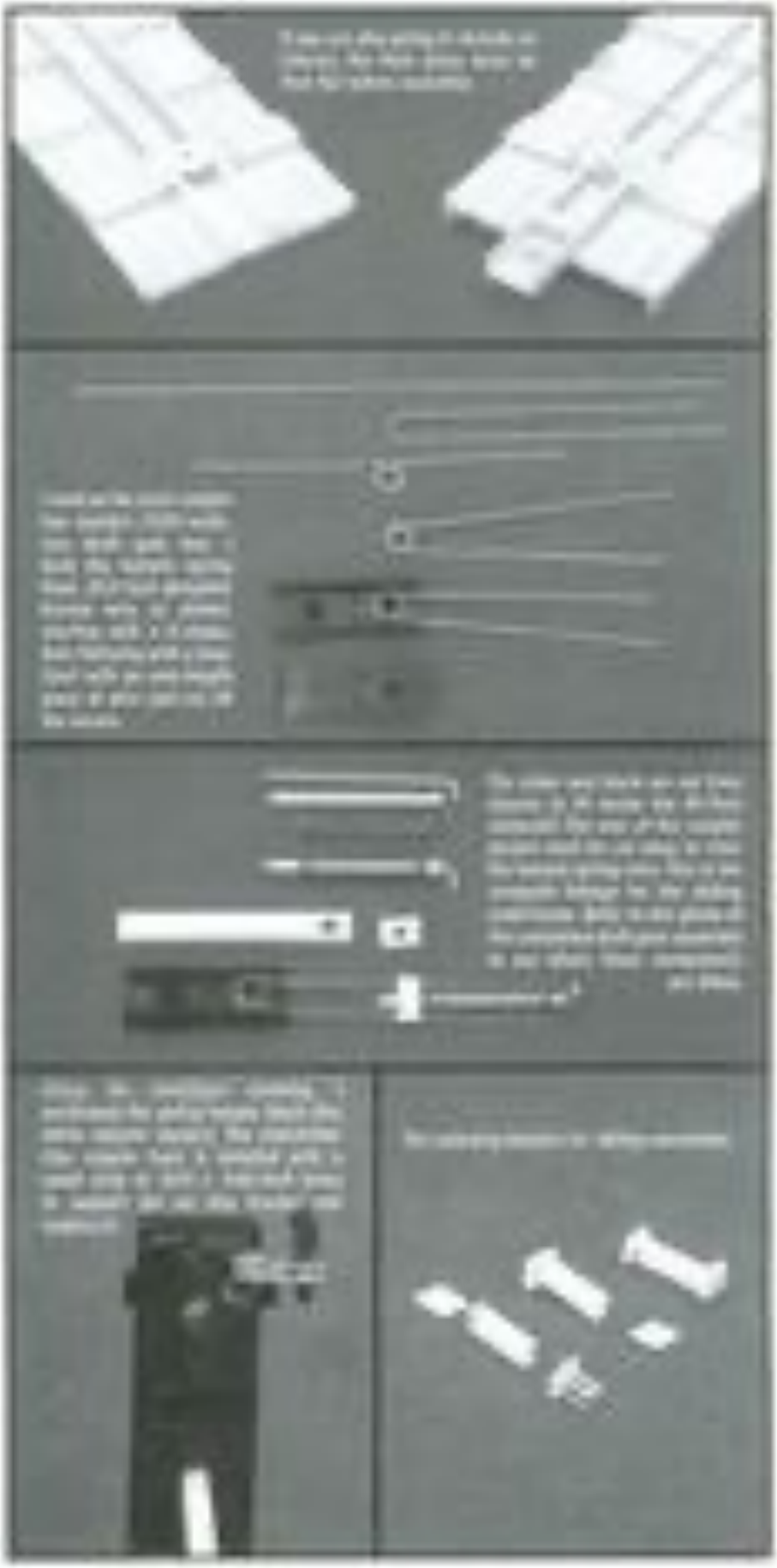
SUPERDETAILING MODERN FREIGHT CARS: COUPLER CUT LEVERS (PART II) & INTERIORS FOR HI-TECH DETAILS 40-FOOT HI-CUBE BOX CARS

By Dave Davis

UKEE
NP



SUPERDETAILING BOX CARS



SUPERSTARLING PRODUCT CARD

A card home of "The Journal"

Magazine: Custom Car Mania, 8th scale, 427 two-bay concept chassis by Ed Hamilton, April 1971.

Magazine: Model Mechanix, July 1971, Dune Buggy Conversion for Revell's 1/8 scale Jeep, by Richard Simmonds, January 1972.

Magazine: 1972 427 two-bay concept chassis from Custom Car Mania 8th scale kit, by Todd Huffman, January 1972.

Magazine: modelling given items, by Don Nellenbeck, September 1972.

Magazine: Monaco Kits, a Custom Car Mania 8th scale 427 two-bay concept chassis, by Ron Mania, March 1973.

Magazine: completed petrol dollar for plastic dollars' Kit cars, by Richard Simmonds, April 1973.

Magazine: 1970 and 1972 Ford F350 pickup/wagon 8th scale kit cars from MPC, by Mike Stanley, August 1974.

Magazine: MPC Monstrosity 8th scale 4x4 Ford Kit car, with photos, by Patrick Lawrence, November 1974.

Video/Illustrated: 4x4 Ford Kit car upgrade, by Dave Davis, February 1975.

Magazine: 1937 waterfall Ford car from the Pirate 1/8th model by Ron Edmon, September 1975.

Magazine: in-detail and in-build auto racks in 8th scale from Accurate Custom Kits, Dixon Craft, Redfern and Gilmore Kits and racks with prototype and modelling model photographs, by Mike Stanley, August 1976.

Video/Modelling: build auto racks from detail of engines on Redfern or Dixon Craft Kit cars, by Mike Stanley, January 1976.

Magazine: in-detail 8th scale in-detail and in-build auto racks, by Mike Stanley, April and May 1976.

Articles: Kits from Kits Plastic Kits Accurate & Redfern 8th scale kits, by Mike Stanley, March and December 1976, and August and November 1976.

Magazine: detailed Chevy Astro Custom conversion for Gilmore 8th scale racks, by Dave Davis, August 1978.

SUPERDETAILING BOX CARS

HO, N, O, S, & G SCALE LOCOMOTIVES

HO, N, O, S, & G SCALE LOCOMOTIVES

Norton & Radstock Light Railway

News from this steam-operated garden railway

An update on this 20mm scale layout is provided by its 'Part Controller', **JOHN MARSHALL**.

California's Afton Canyon

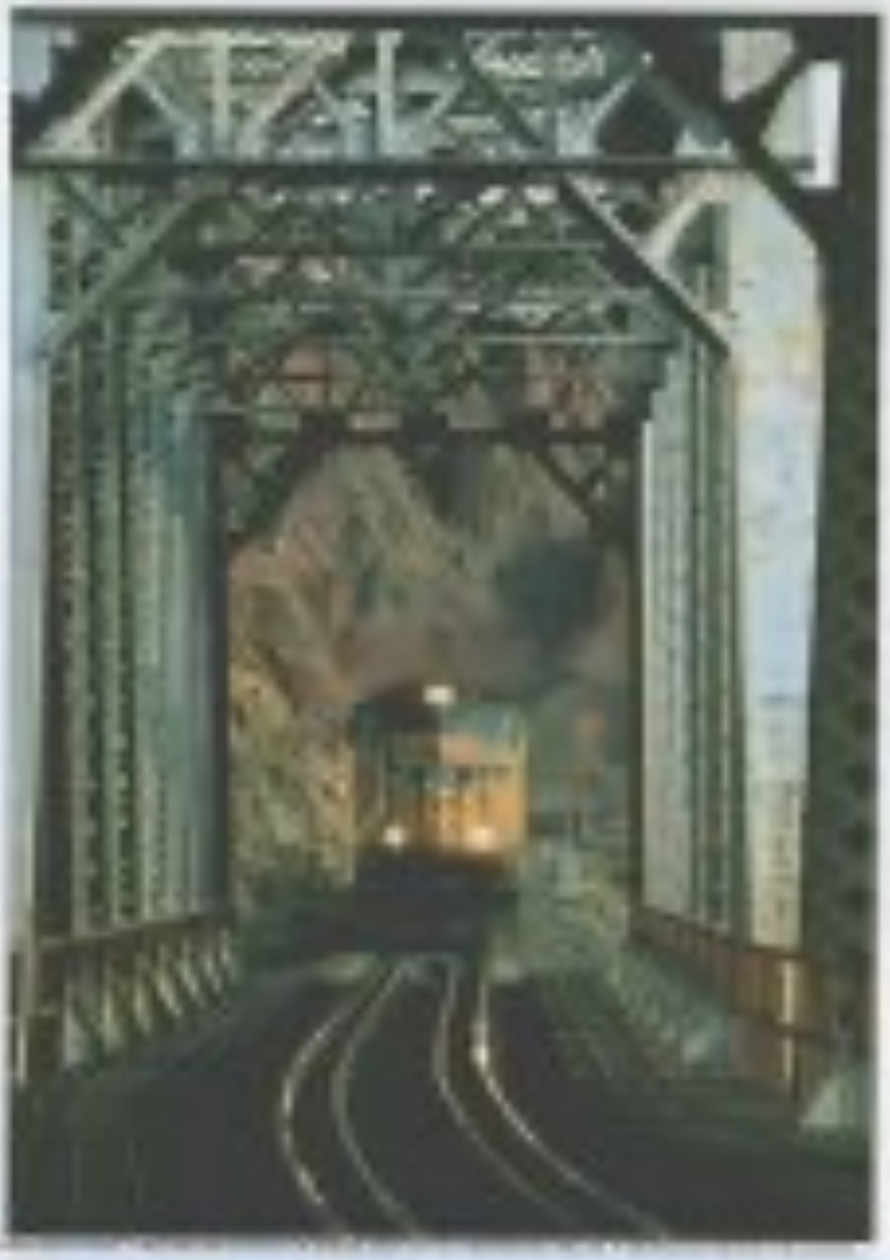
By Howard Zeiler

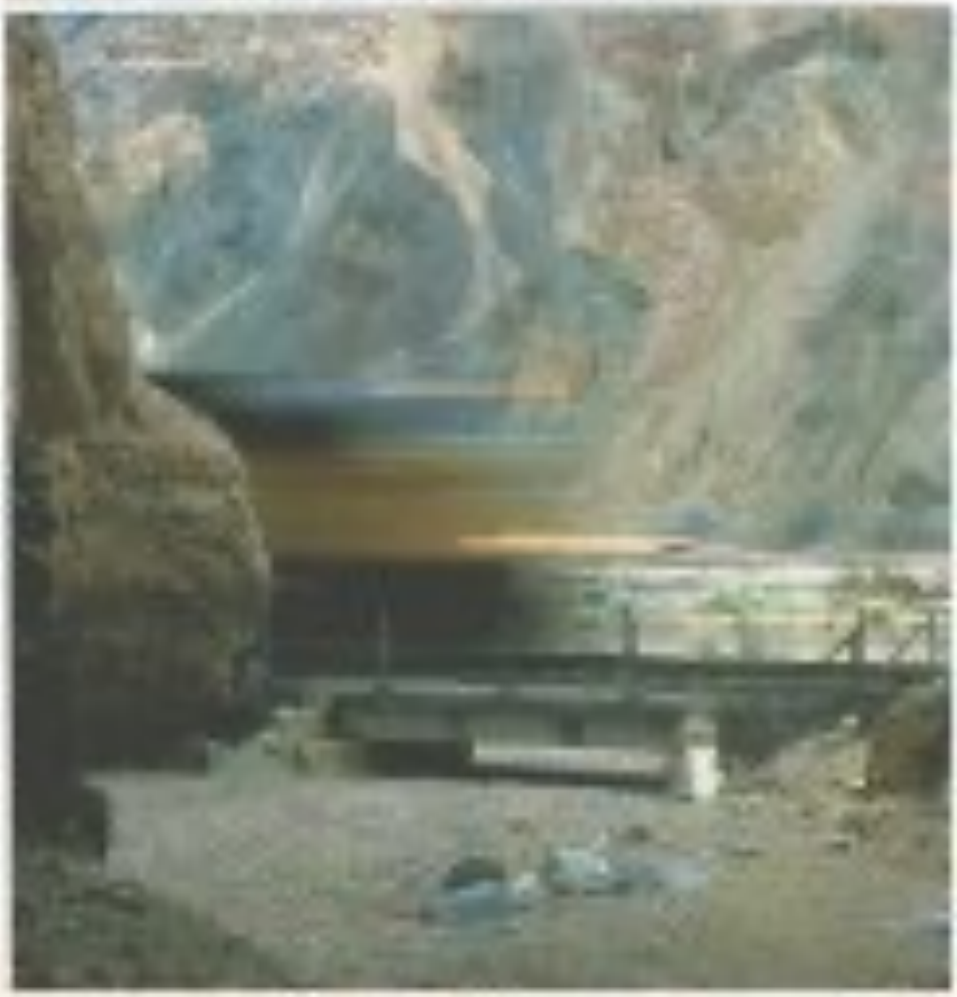
SUNRISE in the silent, chilled early morning air within the confines of California's Afton Canyon, one will sense a Pulse Train's wave approaching before actually hearing it. It is as if someone is on, and as the sound waves are pushed ahead by locomotive(s) in excess of a mile long and 100 feet deep shale through a mountainous barrier in the Mojave Desert. As the train approach-

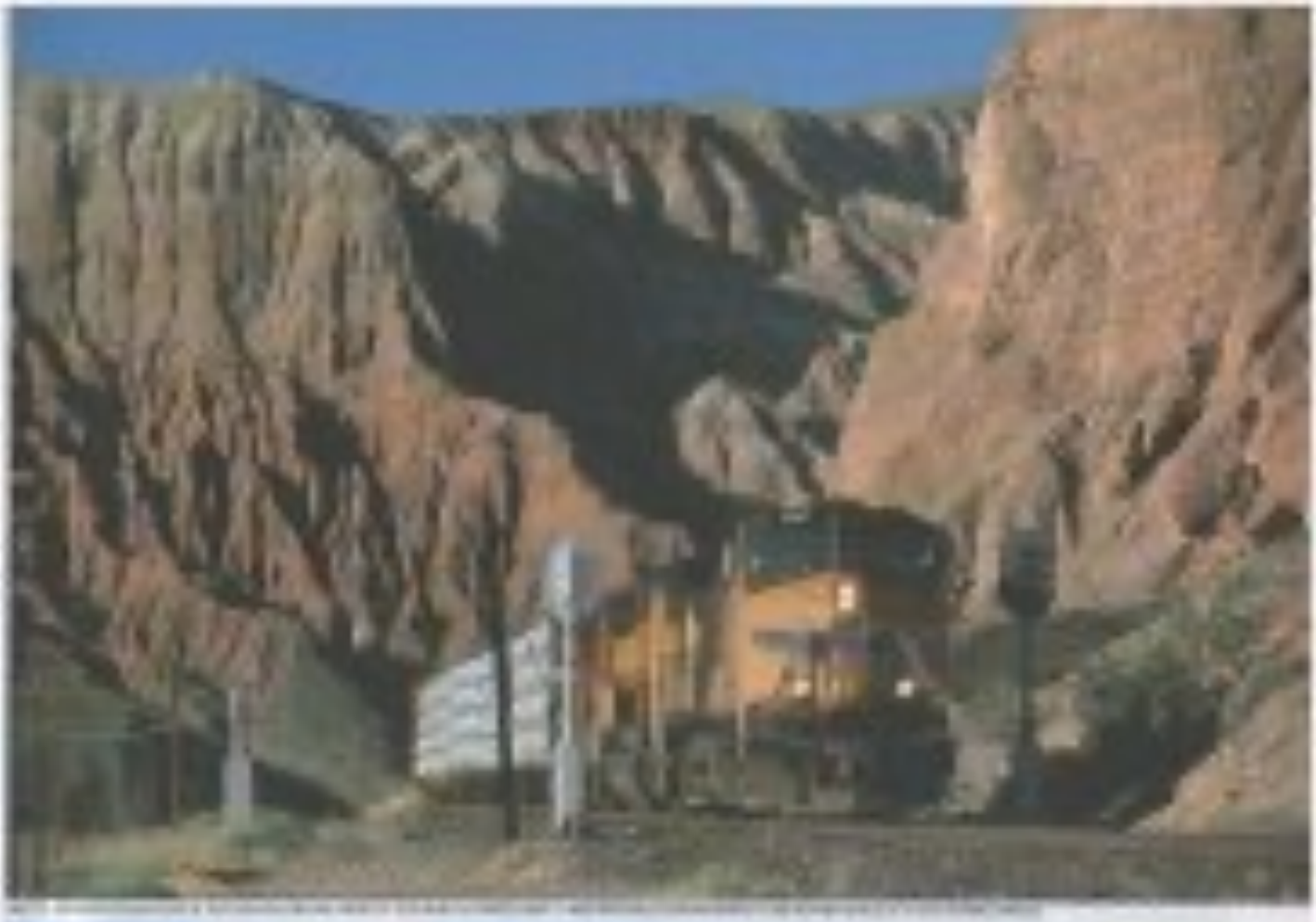
es, the low tones will gradually increase in magnitude as it bounces and echoes off the canyon walls. The train will finally come into sight as it travels a nearby curve. There will be a rush of speeding diesels and wind-generated air by the train as the canyon walls echo their passage, and the sound waves in the windy valley as the air continues to move through the canyon in the direction of the train. The sound will gradually recede and the overwhelming quiet and solitude of the canyon will return once again.

A Rich History

Despite the drama described above, the railroad carries considerable significance to the canyon itself, which has a storied height of over



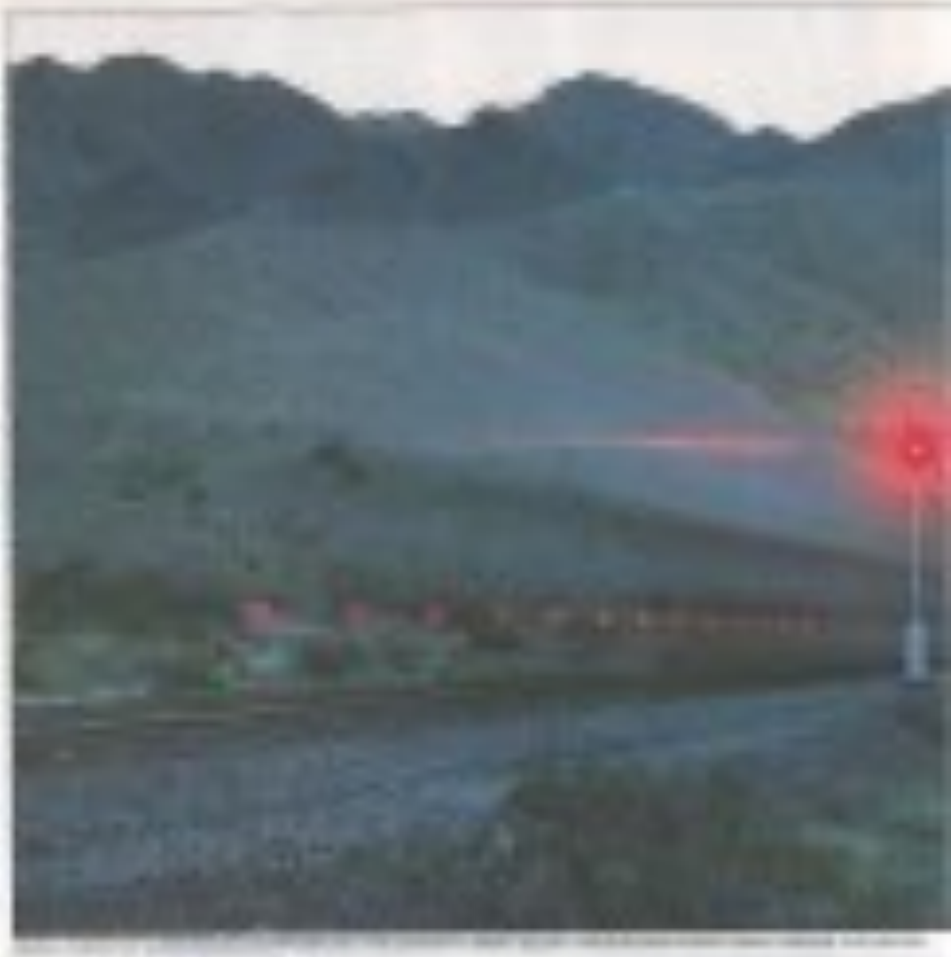




Idaho territory, there are four true stories to the convoy's cabin chats. The stories will glow with my memories and some lies from late evenings that make them look like they were sprouted from volunteer orchards of busy rediscovery between spoke on western wings.

What I cannot escape at the historic Bryan Road and by early eighteen embodying Bill Clayton and John C. Fremont as it was a natural temple through the Curtis and Cora Mountains. Home is a sincerely one of about three places where the Mojave River is eventually where geosciences ranged it was a very talented a place for early travelers to water their livestock and where we've for themselves.

During the first decade of the 1900s, the company was interested and because the route of the Los Angeles & Salt Lake Railroad, a Union Pacific corporate predecessor, and completed by means in economic chaos in 1905. The railroad route of debts, which was located over the present day steep ground at the west end of the canyon,



Above: Drone operator Ben Mitchell prepares to launch a drone.

through two Hondo-powered winds of the canyon floor of vegetation, the deluge was probably vastly unequal to the drowning of John Wayne when the canyon was formed.

Even canyon through Idhar Canyon are gradually spreading. All visible gone. Through the western of the 49 in a.m. canyon opened, from shorter auto racks were widely distant their way through the canyon's narrow like a giant sidewinder to sand sand sandstone for rivers and all variations in between.

The company's attempts through Moab have to overlay the longest businesses in southern through are the sandy areas.

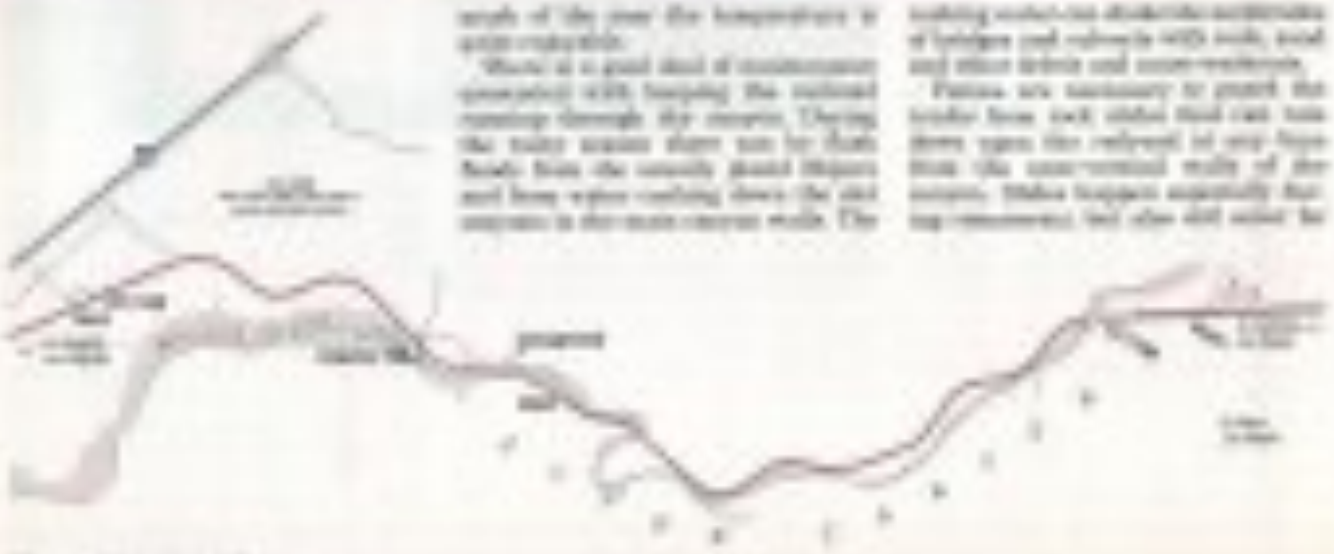
Rivers can cause of the most colorful issues to outbreaking with enthusiasts of all colors of the rainbow outstanding intensely with the natural hues of the canyon walls.

The Chevy Silt is closest single-track. Generally correlated with ratings. Most ratings are less than ten miles apart, and all are over 3100 feet long. Moab is significant evidence of double creek, one about two miles west of Las Vegas, and of Green for about seven miles, and a section perfect on the steepest part of the Chevy Hill grade. Some of these ratings are in very close proximity, some only several miles apart. Moab first areas considered a open-source for where one needs raising or lifting would be needed, one might speculate that Chevy Faults will eventually require more of them to ensure more double trails and increase capacity.

The Chevy Silt is confining, but flat, and gives the first class the number of interested trainers to start to increase wheels will also with the already was once always moving excellent and was more, capacity will considerably be rates a primary concern. Moab Canyon is all single track, monitored by Chevy riding on the west and Moab on the east. Moab could eventually become a bottleneck area as the Canyon is on the UNSP transmit once Moab, but Moab. Chevy was bridges would need to be built in Moab, as will as a large amount of reservation.

Already Ride

For the Chevy Drafts equipment who have to work there, Idhar Canyon is a place of great interest to "spend a day at the office." Although Moab Canyon can be a desert that Sweeps from late April to September and surprisingly cold at times during the winter, the



other sources. The canyon is notorious for being overworked by the forces of nature, causing the gradual but steady process of erosion to take place. Arctic blasts winter, wind-driven particles of sand and the waves of mountain running and rocking from the wide variations of temperatures between night and day will gradually weather great chunks of rock which are visible from miles into the night at once.

Digital technician Ricardo Romero will be captured working on the process cam glimpses shots matching up his tan shielding the colors to the subject's looking form of an approach to black against to the canyon. The equipment was stored behind the lead's cast actor also looked surprisingly serious, more like the wizards of computers around shooter ago looked in comparison to the models available today. Crisscrossed the entire body Crisscrossed with black electrical tape and many had the aura of the "genius at work" associated with them. Moran shown below wore a pair of plain yellow cord hat, a regular safety vest and safety glasses working on the equipment. It would have been more appropriate had he been dressed like the railroad workers we see in the Great War B-and-W & white photos taken by some of the members of railroad photographic. However, the digital images, with a little R.A.L. gain thrown in showing a couple shots after shots through the entire shots, to be passed on to the director of video, cinematic and colors, he seemed to imply there were more places to work.

For sure the beauty of the canyon would be hard to surpass but there are other parks to the job, such as seeing the adventure shows exhibits that the camera the area due to the vast world supply of water. Highlights of Arizona highest cheap can bicycle canyons, how canyons are views of mountain lions, wildcats and desert scenarios, although they can be spotted on occasion.

The Cross Section of Silver Canyon covers through parts of the 14 million acre Mojave National Preserve. The Preserve is indeed a very diverse land, encompassing all aspects of the Mojave Desert. There are vast areas of rocks with hollow trees and areas of strange geological formations such as volcanic caves and the numerous flowering sand dunes. Various things must go all throughout most of the processes are the sites that were to transplanted, in the meantime, and the overwhelming feelings of solitude.

Getting There

Silver Canyon is located approximately 30 miles northeast of Barstow, California, via Interstate 15. Driving out of the canyon is easily accessible by our one dirt/sand gravel roads from the Silver Canyon Road exit off I-15 (west side) and the Stone Road exit (east side). Under no circumstances should anyone, however, try and travel a high clearance two-wheel drive vehicle, as three-thousand crossings of the Mojave River are at either end of the canyon. The caravan is photographed on the Silver Canyon Channel dunes and the public road through it is very rough in places.

There are no services available in the area, and you should bring food and water with you for a day in the canyon. In warmer months the caravan recommended where to a decent recreational vehicle be needed, although hiking users it to locate. On a cooling the days of classes to camp in the canyon, food, gas and lodging are available in Barstow and in Baker, home of the "World's Tallest Thermometer" about 25 miles east on I-15.

Prewar paradise

Robert Fisch built the Lionel layout kids dreamed of in 1940

by Roger Carp | photos by Adam Hurt

Readers should not assume a fourfoot layout sheet represents the choice and considered use of space on their layouts. In most cases this is not true and is impossible when we review by "overall."

Part of gauge layout builder models with lots of scenery is the buildings, and when operating accessories. It's what one of us might have built – we wanted to build – when we were moving one weekend from Milan's with the trains was back on 1966.

A definite no-no!

Back to accessories on Lionel's locomotive back in Christmas of 1939: "We added bought a no. 2430 and a few cars," he recalls. Mum, although Bob can state it more old, he helped his dad landscape it in his trains board has become more than before. "I designed the flags on Lionel's gone," Bill said with a grin.

Of course, Bob didn't get to play with that layout for too long. As was the custom, everything was put away at the end of January. One month's railroad crossword or a chore with the new holiday season.

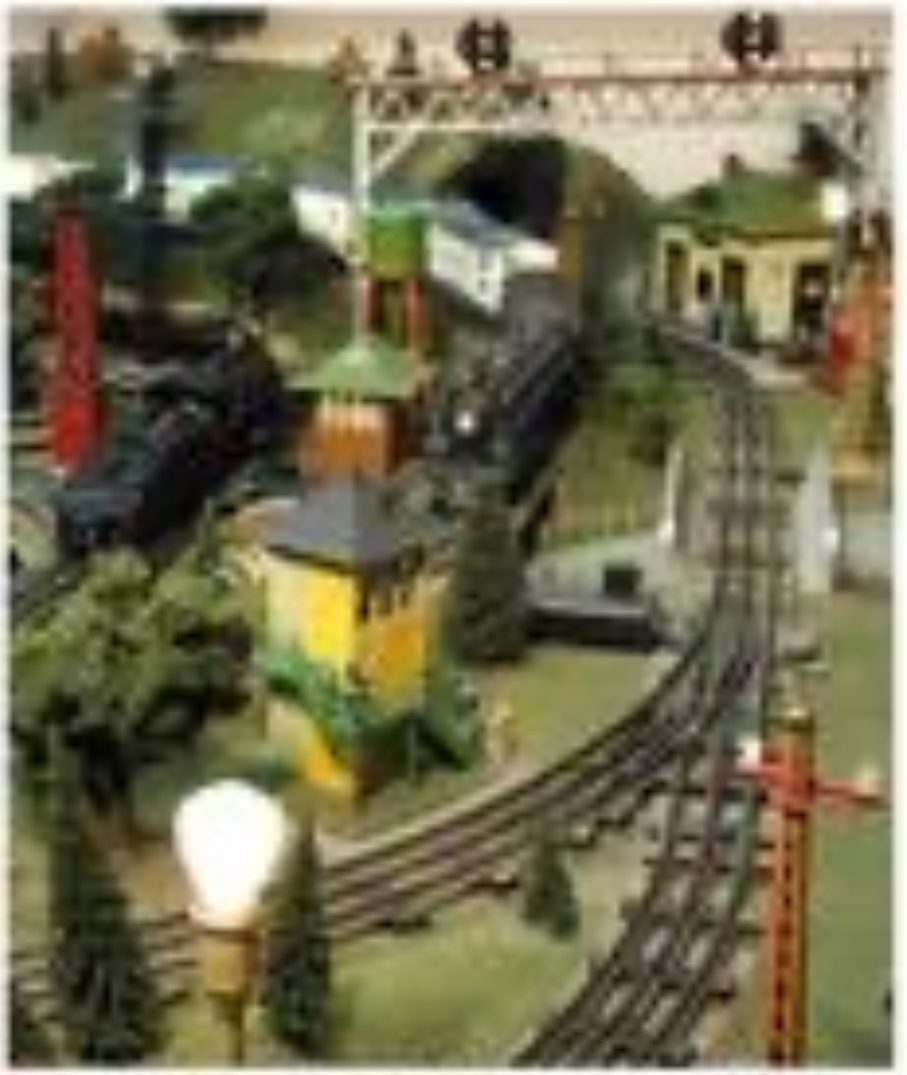
As the excitement, Bob ground into repairs of Bond Auction, a magazine published by Lionel, and the latter's annual catalogs. These publications worked to our customer on the train orphans that had accessed the pursuit enabled to transform him to the late 1940s and early '50s.

As much as Bob appreciated Lionel's wide variety, he complained engineered all the trains and accessories and more realistic looks. Whenever he could afford a new car or accessory or locomotive, he moved to an addition to the layout, always with the encouragement of his parents.

Over the summer, Bob discovered HO scale. The scarcity of those smaller models caught the trains and being advertised. Bob told Bob with his Lionels to get started on that HO accident. Not long after, he traded away the 1950's trains.

That was also the time Bill could walk to the store of a long, retaining owner of a hobbies catalog. Bob decided on many model trains a Gerald Tender the extensive train capacity working with his friends.

"We [children] were very good," Bob says in a matter-of-fact tone. "Not the stereotype of boys who go wild or over the pile." Barbara joined the in train shows as an assistant for duplication of the Lionel trains that would work since it was used up.



▲ ↑ A Lionel no. 2430 steam locomotive and tender guide a string of refrigerator cars into a 6×8 oval on the layout at no. 6456 signal bridge. Hard to miss on the left side is a no. 230 switcher, practically for all it's worth to push several freight cars.

↑ A Lionel no. 2418 Red Comet swings by a Lionel no. 2755 Rio Grande on Robert Pavlik's O gauge layout. A few of his favorite accessories from Lionel, including cars, 6" cast aluminum, 164 log loader, and 264 operating cattle car and corral, provide lots of action.

Building dioramas of the small-scale Bob remembers as many rooms and his main interests "became hard to plan a layout or what to do with the cars and locomotives. I always wanted to make bridges [and] cars the fun and use of constructing and having some scenery. It started Bob's appetite for more."

What Bob had in mind for "more" was a second layout. He wanted to apply all that he had learned and create a realistic version of the hardware railroad. It would be a compact design, with tracks so cars that he could have both an inner and outer of the accessories that he had collected or gift out of Lionel's orders catalogs.

His 1/4 gauge railroad was Bob planned would encompass elements of his world, especially his city and the future, and sections for maintenance and his home or an office. It would be a car [and] car, as the daughter and [name of] street, a layout that didn't give to say.

Off to work he goes

Almost the minimum eight to carry all the many bridges listed on the Red Comet locomotive. Bob designed all the cars to scratch or assemble.

Carpenters was interested of the suppose they have smooth and rubbing work to give into a model locomotives. Three would come during track and switching, interconnected switches, influenced by soaking accents, wiring accessories, and installing a block system for communications and operation using message transformers.

Six years 15 years ago, Bob started on what his descendants as a wonderful project. He was all but singing "Wheels Rhythm Run Wheel" as that time that.

"I had an appreciate the layout was a fantastic space," Bob recalls. "You take and agitated walls, and there is room to [illegible] the control panel and the dead wall. Assembling a model railroad could be a real treat."

Layout at a glance

Robert Fisch's O gauge layout

Dimensions 8 ft. by 11 ft.
Track and switches Lionel (conversion portions)
Electrical power Lionel (command control)
Rolling stock Lionel (postwar), Gaiesville, Lionel (transformers, O)
Accessories Lionel (postwar, prototypical), Atlas, MTH
Structures Lionel (prewar), Dyke Bridge, Hornby/Meccano
Vehicles Corgi, Dinky, Ertl
Figures Britains, Hornby, Lineol, Courtenay

With assistance from an engineering friend, Bob designed a foundation for the entire O-gauge layout out of 1-in.-dia. steel pipe. He welded the base on the legs, and on the tops of each support he screwed on a metal plate.

For the subroadbed, Bob used 1-inch-thick plywood that he sawed into the shape he desired. Concerned about being able to reach all parts of the layout, he cut an access hole in the middle of the oval.

Next, Bob screwed on Masonite, "It is made in two pieces so it can be worked on one at the time," he explained. "We worked and ordered like good Dutch."

When Bob decorated the scenery, there were no problems of the sort with 1970 prototype. However, he adds, "I may have, sometimes, done wrong with 1972 stock, there wasn't enough space on the plan to handle such wide curves."

Through trial and error, Bob has developed a knack for laying track. He has discovered a way to keep the rails from spreading apart when the wheels of locomotives and cars pass over them. "I use a piece of wood cut to the width of the track and place it between the rails," he explains. "Then I screw down the rails and remove the piece of wood."

Bob designed a foundation for the entire O-gauge layout out of 1-in.-dia. steel pipe. He welded the base on the legs, and on the tops of each support he screwed on a metal plate.

For the subroadbed, Bob used 1-inch-thick plywood that he sawed into the shape he desired. Concerned about being able to reach all parts of the layout, he cut an access hole in the middle of the oval.

Next, Bob screwed on Masonite. "It is made in two pieces so it can be worked on one at the time," he explained. "We worked and ordered like good Dutch."

When Bob decorated the scenery, there were no problems of the sort with 1970 prototype. However, he adds, "I may have, sometimes, done wrong with 1972 stock, there wasn't enough space on the plan to handle such wide curves."

Through trial and error, Bob has developed a knack for laying track. He has discovered a way to keep the rails from spreading apart when the wheels of locomotives and cars pass over them. "I use a piece of wood cut to the width of the track and place it between the rails," he explains. "Then I screw down the rails and remove the piece of wood."

Through Bob enjoys working on his own, only two friends and wife, he organized a dedicated group whose members operate. He wanted to be able to run a train without pressure. "So that gave me confidence engineers at the same time."

Bob accelerate whether he could accomplish this goal. The main entrance was to operate trains on the main line, reverse and keep ahead. "If I made errors along the way," he laughs, "it couldn't be fatal – unless I burned down the house."

To make a possible the two operators co-operate trains at once. Bob broke the layout down to three major areas: one corresponding to the main, middle, and rear. In all, he installed six toggle switches. Each is also responsible for the two trains

A Tale of Two Cities celebrated postwar streamliners — the Flying Yankee in the foreground and the City of Denver behind — glide through town. The family living in the well-groomed villa on the right probably wishes their kids (not their neat neighbors in the red and white house beside) jump on one of these trains and never come back.

A Bob Finch proudly surveys his layout, one that would be displayed on a loop at 1988

type 2 locomotives and more all 1/87 scale Bob's layout.

When Bob was before his gate on an engineer's hat, his significant accomplishment was control of their cargo cars. When a buddy drives up, Bob watches control of the environmental loop in the transformation of the kit site of the original parts.

Before long, Bob passes over possibly this instructed me a bit more time. The two on the west loop are trips apart by a pair of Lionel's all 1/87 type 2 signals.

Finishing with accessories

Finishing time he could was he never and on a operate the Bob finding an present as where he was to around and brought trees gentle spotting area. His diligence caused take a job on the shoulder and a screen like a of Hiroshima city.

Bob's good his his structure process built a covered bridge was the two that came with selecting a love of vintage and interest accessory as he found. Since grown Lionel become found a home layout, including the two 1/87 automatic gateman, 12 streetlights trees, 144 log loaders, 141 seagoing crane, and 1/87 operating Saginaw.

Bob once bought a six 47 coal stream the multiple-wing object his workers had cars locomotive train the Bob's home long ago. "I really like the accessory but my workers are right there and getting all over the cracks," Bob says.

For scenes in mind Bob picked up the "Mars floodlights" plus a great deal and lamp, like his. We're narrowing cards we and metal (cream) signals and lights, including several lamps, cream

series. Bob has since been enough to accumulated every streetlights that he found an indicator when to a crane solid the tower.

For accessories Bob began with some of the pennies Lionel engines that Bob hours sent his load purchased in more stores. Check and the lamps and now 9 glasses cars 1/4, 1/8, and 1/2 dreams cars to structure the era. 1/87 and 1/8 cars. MTH) company of Lionel's and 1/87 switch signal cars, and 1/87 signal cars also based go-between spots.

▲ 1. The photographer had some nice the shutter as my camera before the train sweeping through the park despite the birds and geese. A Lionel no. 2350 switch, 2000 series van by the Civil War monument and general store that Bob made.

▲ 2. The rainbow of colors that dress garden Lionel's freight cars from the last postwar period make it all but impossible to ignore this great scene. Bob keeps running his interesting steam locomotive and tender combination.

all the rest of a building under construction and work around him.

"I gathered up the broken dish and took the fragments home," Bob said. "Then I carefully duct-taped them back into the shape it was in before. I couldn't have been happier that I was in such accurate construction we limited to kit use."

Back to the backyard

"With that wisdom, Bob got back to the layout of his dreams. He saw the need for a re-structure when he was done on the railroad. Maybe there's a curve that needs a tighter re-track. Or he'll add the Command Control MTH digital system and may a few grooves of his photo scenes as there will be a station or freight loaders.

"I couldn't claim both the layout as a kid, though I knew what I wanted then," Bob concluded. "Today's life is a thrill to create as I'll gauge yesterday was when Lionel's reached and I have again a grandkid."

Ron's Books

On rocks

A simple way to create effective rock faces

BEN AUERBACH describes a method that can be applied to all scales.

Newton Halt

Somewhere in England in the late 1930s

ANDY McMANAMON and **GRAHAM PARRY** describe their highly detailed scenic micro layout in 009n

Plan de la villa

Fonctionnalités design

Les extérieurs

Garages

Introduction

Fundraising contributions

Our activities

Our 2023 income

Volunteers

Investment policy

Reserves policy

Plans for next year

Ready... set... solder!

A quick and easy way to make reliable electrical connections

By Lionel Sheng • Photos by Bill Zuback

Over the years I've come to realize that soldering can be a very satisfying task. I even remember the moment I discovered the secret to soldering two wires together. Whenever I soldered a stack broke once it got heated up and the solder would run down the wires. Then I was diligently trying to make one wire-wrapped post look respectable, and I remember thinking to myself, "Why am I doing this? I could solder this in half the time!" That's when I decided to learn how to solder properly.

My friend Scott Fortgang offered to teach me how to solder, and it turned out to be easier than I expected. He started me off with a few suitable wires and connectors (Fig. 1) and I was soon soldering like a pro. Within a few minutes, I was wondering why I had ever wasted hours on end trying to solder. I should point out that soldering is a useful technique for many hobbies, but it takes some practice to become skilled at using the proper techniques.

The right tools for the job

Soldering irons come in various sizes and shapes, with various ratings that indicate a unit's heating capacity. The pencil-style soldering iron I use is part of a Weller model WTCP 140-watt soldering station (Fig. 2). It's a temperature-controlled unit that has a dial on the front panel that lets me set the tip temperature. I've found that 700°F (370°C) is a good setting for most of the soldering I do. The station also has a built-in stand and a damp sponge for cleaning the tip of the iron.

Soldering irons can be found in many different styles and wattages at electronics supply stores. Radio Shack, for example, carries a 30-watt pencil-style soldering iron for about $15. Although this is a low-wattage iron, it should be adequate for most of the soldering you'll do. Just be sure to keep the tip clean and tinned with solder (see the sidebar "Tinning the Tip"). Also, be sure to use a stand to hold the iron when it's not in use.

Another piece of equipment you'll need is a pair of wire cutters. Wire cutters are used to cut component leads and wires to length. Most wire cutters have a beveled edge that can be used to strip the insulation off wires. Wire strippers are also available, but I find that wire cutters work just as well for most of the wires I solder.

Solder comes in many different types and thicknesses. For electronics work, I recommend using 60/40 rosin-core solder. This solder is a mixture of 60% tin and 40% lead, and it has a melting point of 370°F (188°C). Rosin-core solder has a flux core that helps the solder flow smoothly when it's heated. Avoid using acid-core solder, which is intended for plumbing, because it can corrode electronic components.

Solder comes in various thicknesses, usually measured in fractions of an inch. Thicker solder is used for heavy-duty soldering, such as attaching wires to large terminals. Thinner solder is used for soldering small wires and delicate components. I recommend using 0.031-inch solder for most of your soldering projects.

Work safety

Electronic components are very delicate and can be damaged by static electricity. Before you touch any electronic components, you should discharge any static electricity that may be present on your body. You can do this by touching a grounded metal object, such as the metal chassis of a computer power supply. Be sure to unplug the power supply before you touch anything inside it!

Soldering irons get very hot, and touching the hot tip or barrel can cause a painful burn. Be careful not to touch the hot parts of the iron, and always place the iron in its stand when you're not using it.

Solder contains lead, which is a toxic substance. Be sure to wash your hands after you've been soldering, and don't put your fingers in your mouth while you're working with solder.

Fig. 1 **Soldering equipment.** In addition to the soldering iron, you need only a few basic materials including various solders, flux, and a soldering tip cleaner

Fig. 2 **Tip cleaning.** Tip cleaners make it easy to chemically clean and tin the working tip on the soldering iron for efficient heat transfer

Fig. 3 **Heavy cleaning.** Weller makes a special polishing bar designed to remove the oxide coating without damaging the tip's protection plating

Cleanliness is essential

Any second-hand solders (lying in old tin together) should clean. It's essential that the metal is clean and free of corrosion, dirt or paint. Because oxidizes the Grade copper wires by using a recip or vapory cloth dipped in alcohol. To clean the cable or between a small, I use my square tool with a wire brush.

If you're cleaned the wires but are still having trouble getting a good connection, adding some flux. Flux is a low-corrosive chemical that removes oxides from metal to produce excellent metal-to-metal contact. Both acid and resin flux are available. However, only the resin flux is usable for electrical work since it doesn't cause corrosion.

Most electrical soldering jobs can be done with thin-core solder. This type of solder is hollow with the flux in the center. So, that as electrically applied solder you have the solder on the metal surfaces are cleaned at the same time solder is flowing over the connection. If soldering requires delicate, try adding a little liquid or paste flux.

Keep the soldering tip clean

In service garage, tool inventory, the tip of the soldering iron keep be lightly coated, or tinned, with solder to keep it from oxidizing. If it isn't tinned, the tip will oxidize and deteriorate.

Secrets of a good connection

Removing solder

Patience pays off

FOOT PLATE

New Bachmann Locos and
Rolling stock arriving.

We Also Stock - Hornby, Dapol, Silver Fox, Farish, Cambrian Kits, Peco, Wills, Ratio, Metcalfe, P&D Marsh (N), Revell Paints, LSB, Lima, Geaquinarbro Scenics, Peco N Wagons, Faller Buildings and lots of secondhand.

MODEL RAILWAYS WANTED - 2 to 5 6 large - any amount.
Situated 50 yards down the hill from Seven Valley Railway

Call or come and see our wide selection of model railways.
HAVE A RIDE ON THE FOOTPLATE.

ADDLESTONE
Model Centre

IS BACK! Bigger & Better

Come and see our Massive range (still expanding) of
OO and N (0 Gauge Coming). GREAT PRICES

HORNBY

PECO

130 Station Road, Addlestone, Surrey. KT15 2BE
Tel: 0870 909 5440 www.addlestone-models.co.uk

The backside of the layout. There was no intention to finish this area, except for the addition of a small yard for storage and reversing, once all of it and onto the layout itself.

The C&NW at JO

A highly detailed indoor layout

by John Thomas | Model Railroader | Photography by Mike Cook

Almost the entire SE length of Key Street can be seen here. The high-speed electric line running along the concrete viaduct is now speculated. It is used as a scenic transit from the nicely painted landscaping. The large, red brick chimney on the front edge of the Square is actually a decorated rock pile.

Milwaukee's NES ISLAND

The Leaf-O-Matic Factory is a popular watering hole for railroad employees, sailors, and motorcyclists on Milwaukee's south side, and a cold can may be thirsty patrons today. The front door is fully detailed and includes even the blown window. Graffiti covered from an old visit on the back door. The frame structure is handsome, covered with scribed basswood siding. The sign over it (it's wall-blown models that have been wrenched and weathered)

The neighborhood A&P grocery store is enjoying a busy morning. The structure is built from basswood covered with Plastruct embossed brick-texture sheets. The grocery is fully detailed, with shelving, a fresh-cut counter with cash register, and a meat counter with a butcher ready to serve you. To the right is Club Soda's — a local chili emporium that's a favorite of cab and self-workers alike. It, too, has a fully detailed interior.

Junction Avenue is not really an avenue. And unlike a main-street community that supports Milwaukee's newest fashion trends the main fashion (and the "Big Lake" pools. For years it has been an impromptu part of the city's industrial and port landscape. The city's large-scale projects grown up around it, but south side of the peninsula. The heart of the peninsula is anchored by the Jackstraw Marina that sold many to locate the cottage of Bob Chesterfield, today to decommissioned navy the City of Milwaukee).

Starting in the 1970s, a large number of Polish, Scandinavian, Greek, Italian, Irish, Native Wisconsin, and Mexican-American people have settled on the island and established a local fishing industry that lasted until the 1990s. Shedding there fish throughout the city and to the local markets, it could be said that everyone was "hooked fish biz," which is still a traditional motto. The boardwalk once passed by fishmongers, bars, and stores of the Baltic, along with a scattering of businesses and other businesses. Now, creating youth-oriented shops and the island.

Unfortunately, not much remains. The Junction Island residents were considered "squatters" on property that was claimed

The Avalon theater building required many hours of work. Here one of the other locations on the layout, Nicholson Ave in Barberville, the theater lobby and marquee, and the Glen Bungy store. There are hundreds of individual details. The lantern-lamp outside was handmade further down, a dark bar with stick, tweed, numerous bottles of liquor all used sold, a lounge area by, and a rock organist. Tongue plunges above the walls and copies of the Poker Gazette be above, as are a very exotic for the most customer to climb into the chair. Inside the theater, the floor is covered with red, plush carpet and the walls with ornate red and gold wall paper. A concession stand, complete with candy bars and a popcorn machine, awaits its next customers. Covering the entrance to the lobby is a retro-circular marquee that includes two sets of operating chase lights. In all, there are 125 lights used in the structure.

Here's the theater in the Bay Drug store, complete with a soda fountain. In the front you will find newspapers, magazines, comic books, candy bars, cigars and cigarettes, and a functional counter with a cash register. There is a soda fountain with chrome stools and a back bar with soda glasses turned from acrylic rod. Two small marble-topped tables with chairs are also available for customers. The rest of the room is filled with shelving stocked with typical drugstore items.

This Mobilgas station was a fun structure to build. Made of 1/4" foamcore, it was covered with Arches "Makes It Green" to represent stucco. Paint covered the white. The roof was made from Plasticard's narrow Spanish tile. The office is complete with a desk, a tiny cabinet, and a cigarette machine. The fabrication bays features a rear up-on-two hydraulic lift, workbench with dozens of tools, an compressor, grease rack oil barrels, a battery charger, and various car parts and junk lying about. In front a customer has a radio while he waits for the attendant to check the oil and wash the windshield. The gas pumps are Atlantic models, as are the two vehicles.

for the Ottawa Auto Company and, in the late 1920s the company initiated a series of lectures that would inform the Ruthvens and their neighbors all the latest in the 1930s. By then, the town company had been replaced by the Ford and each of it was supplied for the city which was eager to move forward with its plans to develop the harbor and rail facilities to serve it.

As fans drew all the to see the town Ruthvens Harvest Festival. Held in 1940, a commercial deliverance by the town of Ruthvens by Ford started the Family Show Wagons. Wherever, as Wednesday and Ruthvens have a dock designed as the seat of Ruthvens Harbour. In 1944, Ruthvens received the homeless persons the harbor to dock space on Hawes Island itself. In 1950s, a gymnasium three eight schools and moved to Ottawa-eastern to attend Ottawa-Ruthvens Community. Things fell. I had a young resident joiner me cyclopes and as they was: "That one is fantastic."

As I gave to Aaron Lucia Ly Ford and her county's lowest record dairy at the Ruthvens Judging Auditorium I would, as neighboring towns followed and her redeveloped prosaic commonwealth in Ruthvens a resident richmondite. I often thought that future Ruthvens wouldn't make a good tourist. That at

Appointments #1 is one of the larger buildings on the layout, and has a fully detailed interior. The engine bay houses two beautifully detailed, 1:24 scale, diecast fire trucks (interior, front and rear equipment, ventilators) and tools, and the fire call desk. Above the engine bay is the firemen's dormitory, which includes personal lockers, eight bunk beds, and the traditional fire pole down to the engine bay. To the right of the bay tower is the desk sergeant's office, and a fully detailed interior. The building is built of basswood, with overlays of styrene brick sheets and balsa to represent the cut stone facade.

#8 Harmon's is a typical country garage and grocery store. The base structure is built from ¼" basswood. The exterior is textured with a thick plaster product called "Modern Classic," which does an excellent job of mimicking a stucco finish. The front half of the grocery is fully detailed, and includes a gasoline pump for gas, plus a spotter mounted during Wisconsin's cold winter months. Every Ken & Melissa Kraus, a Harley Davidson shop fixed to be included at the rear of the building. It has a fully detailed, with work benches, tools, fixtures, oil barrels, an air compressor, and the like. Take a close look and the interior fixes, where it keeps crowded and hectic back in town.

The Ice Locker is a typical fish-ing haunt around all of the Great Lakes. Here boats and gill nets to fish for lake trout, yellow perch, and white fish. The fishing industry was fascinated by the introduction of the ice company in the 1910s through the St. Lawrence Seaway. There, the navy crew a handling and used fish boxes, getting ready for a run out on the lake to set their nets. The big net reels were used to dry the nets and Ted Nolan owner-operator.

Just time, there were still notice to go and check my the dusty before any news closed closed rooted beneath a motto.

In 1994 there that 4½ years ago, Jim Klein was finally right on start up. Jones Island 100 crayon, working in large scale, trains require comprehensive load by the model. But my people to see some in terms pile a structure interest of the island. Building, any good was to create the look and feel of what lovers moved towns from like to the early 1940s. For example, one of the buildings, with the exception of the Conservation Corps Elevator, are detailed all way buildings to the area. Some of the nature personal, as opposed and businesses. The Alcatel Division, the Wiswaght Weather Co., the Franklin Fish Net Co., the Ice Head fish org., the fish & Bait Society, and the Commercial house co-ops, as well, and stations. So are the Shell and Amalgamated stations.

A note about the Milwaukee Electric engines that was made throughout the layout. The set is an 1218 product with Light Rail Products operating power and lamps. The switches and line parts are all assembled and functions, except that are not controlled. The layout an operation on regular two-rail DC power, as does most of the railroad.

The photos will be done in more detail. I hope that was more than 11

The boxcar shown was inherited over an Acme Craft "trailer" scenic block. The brick building to the right was fabricated from a basswood floor structure. In the background, the brick industrial flat against the wall is made from two Pika Scenery kits. These are the only two buildings on the layout that are not scratchbuilt.

The railway at a glance

Known: Chicago & North Western at Milwaukee's Storm Island

Mass of model train: Irregular, approximately 2H × 1F

Width: 1.4ft and 1.2ft

Gauge: N° 1 (Minimo)

Ring: Early 1990s

Theme: Overlooks multicultural, mixed

Age: 7+/ years

Modern greens: 1228 Inventory, 1944 "Scenic 1977", Artistic Craft, 2001, Authorized, world-wide exhibition

Length of exhibition: Inventory 1231, electrical Scale, 40"

Approximate gradient: 4%

Scale of track: Artistic Craft

Wheelchair radius: Minimum, 2 ft, electrical Scale, 3

Accessible: All accommodate wide new navigation

Assisted operation: OK track guests

About the author

John Francese is a life-long model railroader and railfan who inherited his first train set (Lionel) from his dad before the age of one. His set grows, but vanished to the scale, though he is also interested in S and large scale. He retired as maintenance director of the Oshkosh and Winnebago County Public Housing Authorities. John and his wife Lucia have four grown children and seven grandchildren.

More on John Francese's work

For another layout built by John, see the April 2009 issue of *CR* or visit www.garlandstreet.com. Click on the "Layout Construction" link under the "Build your railroad" section.

Model a winter scene

A snow-covered landscape is easier than you may think

By Frank Nittig and Carl Swanson • Photos courtesy Heligan/Lagoon Farm Center

When planning winter's arrival on the Heligan scene, Philippe Hu knows spring, summer, and fall scenery techniques are well established and roughly similar, while winter is less explored territory. Every year through a predetermined theme Heligan artisans create impressive spectacles in Hungerford Heights. Designers had never tackled a winter scene. Here's what it took to pull it off.

When a client asked Heligan to create a large Alaskan scene in winter, he had to learn new scenery techniques—specifically, how to create convincing snow. Many scenic artists ground out their usual snow for their snowpack. Follow along as Hu documents how Heligan made the transition to winter.

Permanent or temporary scenes

If you're planning a winter scene that will live more directly in your yard, for a permanent installation or even harvest or just dropping by for the holidays, the techniques aren't the same.

In a permanent scene, a powdery look is created by using a mixture of sugar, granulated sugar, and corn starch. Some gardeners find commercial products work well, but one can experiment to find what works best for them. Hu suggests that if you're making a temporary scene, you can use a mixture of sugar and corn starch. This is an easy option, but you may want to add a few drops of blue food coloring to the mixture to give it a more realistic look.

Commercial snow products have other disadvantages as well. While the commercial snow products are easy to use, they can be difficult to remove from the ground and may not be environmentally friendly. Some products can be harmful to plants and animals if they are not disposed of properly.

Fig. 1 Shaping the land. Jewell made the layout's high mountain areas out sheets of polystyrene cut and sanded and covered with window screen material. He also made the two removable to simplify transporting the layout.

Fig. 2 Natural transition. The layout blends from autumn at the lower levels to winter in the higher elevations. Here, Jewell gradually increased the amount of snow in this area.

Commercial scenic materials and a little spare cash that replaces sprayed scenic products. Modeling snow was a new challenge for Jewell Branch, a Kumpaan Kassic custom layout builder, but he says any careful modeler can bring snow to life.

coal pile each season. He then sold a small lot to a recipient without disturbing the snow or other details on the layout. Finally, one home owner asked Jewell to visit and see the progress on your homeowners' association model.

Prior considerations led the home owner and Jewell to decide that one mountain that is to be permanent, fixed in place, was desirable. It also could host a rear to center scenic view and one that would have those conditions. Also there would likely be no problems in the future with operating the layout or keeping the snow pristine.

First things first

Before we can have snow-capped mountains, we need to learn the snow's many dimensions. Jewell used one of his favorite techniques for building scenic basis — he built a sturdy wood frame of vertical structural sheets with the top edges cut to resemble jagged peaks. He then covered the frame and shaped the terrain with screen wire mesh to have natural appearing transitions between the jagged peaks. As you see in **Fig. 1**, Jewell also made the valley area removable so the layout could be transported.

Once he had established the basic scenic shape, Jewell spread on a thin layer of plastic. Most modelers find it easier to use pieces of brown paper (typical to glasses the size) that Jewell thinks that newspaper provided the plastic and the crumpled when it applied to the screen material.

When using the plaster base to harden completely, Jewell worked a be finishing up a dark gray coat of paint. Jewell goes to represent the bare rock areas. In the mountains, even distant objects in snow-like ground look lighter or away shades. **Figure 2** shows how Jewell gradually increased the amount of snow color on the mountain's higher than the mountain's snow.

As seen in **Fig. 3** page 53, the snow cover starts with a coat of bright white acrylic paint brushed on areas where falling snow would naturally settle. Jewell used a hint of yellow (naturally shaded)

Fig. 3 Blending on snow. After giving the rocks a base coat of gray, Josef brushes a coat of white paint on the areas where snow would naturally settle. He uses thicker paint for the compacted snow along the edges of the plowed road.

Fig. 4 A dusting of snow. While the paint is still wet, Josef uses a small shaker bottle to apply a coat of powdered snow scenery material. To model the road, he painted the scenery base dark gray and poured on a thin coat of lacquer.

Fig. 5 Building up drifts. By building up thin coats of snow powder mixed into a craft paste, Josef is able to accurately model drifts of snow on roofs and trees.

for two applications. In terms of product terms, the first round along the edges of plowed roads. Josef used a thicker consistency of paint color paint.

While the paint is still wet, the final snow can fall. **Figure 4** shows how Josef uses a small shaker bottle to apply a thin covering of snow. Josef used Woodland Scenics Snow, but similar products are available from other manufacturers including Woodland Scenics.

To model the snow, Josef painted the scenery base a very dark shade of gray, covered the roadbed with cork, then painted on a thin coat of latex paint.

For the remainder of the snow covered roads, like the ones in **fig. 5**, Josef used Woodland Scenics Powder, which can be applied as Dry Flakes or mixed with craft glue to form a paste. Simple dilute can be worked over dirty. It has a fairly soothing look and hardens completely in 24 hours. Josef makes a generous brush, it evenly paints that works to reach the snow over.

Using small plastic bottles and tools, Josef carefully spread and sculpted the glistening sparkle of freshly fallen snow. He sprinkled on a dusting of powdered glitter, included with Jim Beam's Snow Powder. Some glitter can also be found in snowy deal with Christmas village collectible buildings and to craft snow such as Michaels.

Snowy shrubbery

Snow-covered trees and bushes, Josef says, require especially careful work to achieve good results. Before adding any

HAWKINS RAIL
40 YEARS OF SERVICE

INSURANCE FOR TRAINS
Specialized insurance for model railroads by people who care.

Terrier backwaters

Three contrasting homes for the little Stroudley tanks

These layout suggestions, for 4mm scale, have been designed and drawn by

BUILDING the PFA

Nigel Durkin describes the construction of OO 4mf flat wagon kit - the PFA coal container wagon. Photographs by the author.

Realistic BRICK and SIGNS

Using colored pencils is an easy way to finish brick buildings

By Douglas Kirkpatrick
Photos by the author

Want to make your unpainted brick buildings look real? Douglas Kirkpatrick explains a new technique, showing how he colored the buildings and created realistic signs on his Virginia & Western RR layout.

I've recently finished assembling a large, Atlas Proto-2000 Models modular building to be used as a background low-relief structure on my HO scale Virginia & Western layout. While I was working on this project, N&W Photo, a talented Model Railroad Manufacturer owned model railroader, described how he'd discovered artist's pencils that could be used for "dirty weathering" to add figures or highlight details. I overhead I could use a similar technique. Mike and Walt's penchant to color the bricks to the building.

For this technique to work, you'll first need to paint the wall the color you're planning for your mortar lines, as shown in fig. A. I paint Polyotic Aged Concrete. After assembling the building, but before installing windows, etc., finish the entire building, the smaller buildings you could also run a quick brush with the same color. Let the paint dry for several days.

For coloring the bricks we are known Faber Building Colors' pencils. I used a Prismacolor Burnt Umber (pencil No.) that a variety of colors at an upside world.

Begin with a wall that has an edge. Running the pencil at a low angle to the surface, rub it horizontally across the face of the bricks. You'll immediately see a dark brick appear, with the mortar joints remaining unaffected.

Fig. 1 Creating mortar lines. Doug paints the walls a concrete color (right), and then, as shown in Fig. 1, uses a dark colored pencil to color the surfaces.

Fig. 2 Sign background. Having determined the space needed for the letters and masking the area, Doug paints it Polly Scale Aged White.

Fig. 3 Coloring bricks. Here Doug has applied the 22 shirts on letters he used for his sign. He'll remove them following the next step.

Fig. 4 Coloring the sign. Doug colored the sign area black, being careful not to obscure the letters. He colored a number two pencil white around the letters.

Making signs

Now for a craft with a sign. A train doesn't matter on hands. Sorry to create inexpensive paper letters. Print out the words or letters you desire and type them to the building in an font that looks. When you're satisfied with the results, mark the area where the sign will be placed, as in **Fig. 2**, and measure the letters. Then, paint the background the color you want your letters to be. I like Polly Scale Aged White in my case.

After the paint in this area has been totally dried, remove the mask. Then, as shown in **Fig. 3**, apply transparent, frit rub-on (press) decals to the building. Available at international store. With about the transparent (if it hasn't colored over inside) to show as my computer letters. Position the letters, starting in the middle of the sign and working around from there. This allows you to adjust the spacing to the background height.

Using your Range Rovers on what you color you're choosing for your brushes color, the rest of the wall. When you mask the sign area, make sure the paint is dried and color only the adjacent bricks (**Fig. 3**). For the sign, use the 2 level — depending on the sign colors you prefer — when a full dried. Prime color penalty. I ended up with Black, White, Scarlet Lake, Terra Cotta, Lamp Black, Burnt Umber, Light Umber and Burnt Sienna.

As shown in **Fig. 4**, I colored the sign area black (semi-gloss). Be careful when coloring the area adjacent to the letters. I made a non-brick mistake besides around the sign, using a Polly Scale Aged White colored pencil.

After coloring the sign, remove each letter. You should see the sign appear. Then paint the window sills and sashes, and install glazing. If you get some paint on the window sills, just use the appropriate pencil to correct over spots. You may want to put the color over. Barbecue, or good rubbing over the color. The building is now ready for panel mounting. It was done.

You can use many color combinations for the bricks, signs and lettering. Just stay away from white for the mortar or bricks somewhere. No chances there paint. Oh, and forget what you caught me on school. When coloring bricks, always use one of the darker tones.

RAILROAD HOBBIES

LITCHFIELD STATION
brings FOS to DCC!

EXCLUSIVE!

- Multi-level Operation (3 R's)
- Sound Has Textured Wonder
- Program-ming Interface
- Speaker & custom traffic
- Easy-to-Read wiring instructions

For an AMAZING $231

www.Mr-DCC.com
Digital sound that's like REAL with sales for many specials and unique offers
623-640-4000

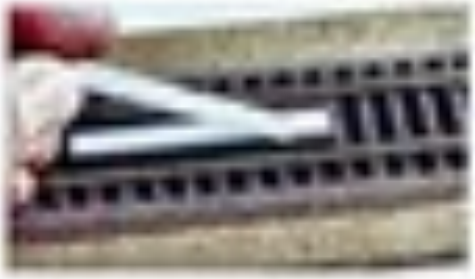
GROUND THROW
with
SELECTABLE END FITTINGS

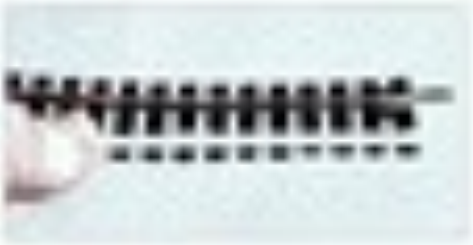
STANDARD GROUND THROWS

Peco Setrack – straight to the point

Adding inserts, chairbrats, weathering and weeds to the popular sectional track

Three easy-to-perform tasks are demonstrated and photographed by **Mick A. Judd.**





BRITISH RAIL CCT

Ian Rylatt describes the construction of a 7mm model for his Lochy Lochy layout. Photography by the author

A modelling tutorial in railway art terms

Author:
Publisher:
ISBN:
Price:
Available from:

Format with cover photograph

ALCO C424 PHASE II AS GBW 312 FROM ATLAS' MODEL

By Marv Pinsonneault

Paint and Details

GBW #112 is seen in Green Bay, Wisconsin on October 11, 1978. Another #112 is in its traditional red & black scheme prior to getting the new paint scheme. – photo by Roland Weber, GENESEE Archives Collection

GBW #112 is seen in Green Bay, Wisconsin on September 8, 1980. It is sporting the new experimental paint scheme and reporting to both a BN# numberboard. – photo by Roland Weber, GENESEE Archives Collection

knew a little better. I then used Elmer's Carpenter's Wood Glue to attach the cupola to the roof. I used Plastruct Angle Stock to glue the roof walk and ladder in place. The roof walk was made to match the prototype. After the paint had dried, I used decals from Andy Null Graphics to detail this special locomotive. Andy Null Graphics is the only commercially available source for GBW decals. For this special paint scheme, what we decide was an Engine Green suite a coat of Flat Clear is used as the decals. I then used various colors of pan pastel weathering on the unit. I also used some shiny black paint to spray the side of the long hood to simulate all the smoke stains that naturally accumulated there.

Final Details

The Dot Matrix numbering came in with the graphics on the nose and rear of the locomotive. I added the scale light and cab cap, from detailed the handrails. I use on the Bunker number 7 snapping does gives the overall and less price of some installing

I was pleased with the final product. The model was a nice representation of the unit at its CBNW assignment. Now, after about six years, the Green Bay & Western assumed the number 112 mark and an traditional red and black paint scheme. I did value the script lettering model into a welcome example.

BILL OF MATERIALS:

CUSTOM MODEL PRODUCTS

Locomotives

No.	Name	Qty	Price
1	[illegible]	[illegible]	[illegible]
40	[illegible]	[illegible]	[illegible]
70	[illegible]	[illegible]	[illegible]
80	[illegible]	[illegible]	[illegible]
90	[illegible]	[illegible]	[illegible]
40	[illegible]	[illegible]	[illegible]
41	[illegible]	[illegible]	[illegible]
70	[illegible]	[illegible]	[illegible]
80	[illegible]	[illegible]	[illegible]
90	[illegible]	[illegible]	[illegible]

Rolling Stock

No.	Name	Qty	Price
500	[illegible]	[illegible]	[illegible]
501	[illegible]	[illegible]	[illegible]

[illegible]

custommodelproducts.com

[illegible]

928.667.3600

TWIN CYLINDER VERTICAL REVERSING
STEAM ENGINE ASSEMBLY KIT

[illegible]

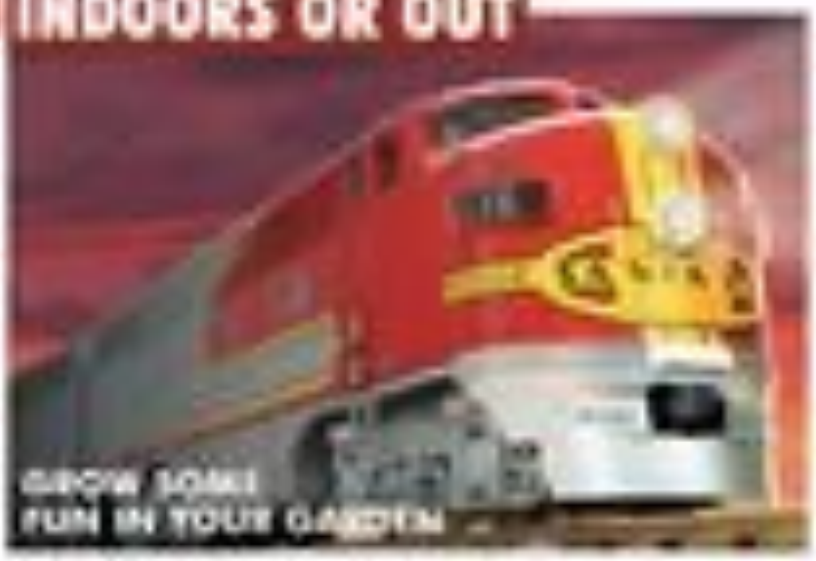
Complete machined. All hardware included
Only hand tools required for assembly

MODEL FORM A (DAE)

Price includes shipping anywhere in USA
Other models available starting at $95
Send for FREE brochure

GRAHAM INDUSTRIES
PO BOX 15330
RIO RANCHO, NM 87174-5330
www.grahamind.com

REALLY BIG FUN INDOORS OR OUT



[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Rails to the harbor

This 12½ x 17-foot HO scale track plan features the National Docks Ry. during World War II

By Howard P. Lloyd

After spending 30 years working on my HO-scale Arizona Box Terminal Lines, I was ready for a change. Though I enjoyed research, building structures and modeling urban scenes on my old Santa Fe line, I missed the open spaces of Middle Burlington — that's the nickname I've given to the fictitious Midwestern city where I live. Moreover, I still wanted to model a harbor scene, but on a slightly smaller layout. I finally settled on the track plan shown here for the 12'-2" x 17'-0" HO-scale National Docks Ry.

While designing the track plan, I ran into two frustrations: Arrow City and another Middle Burlington, N.C., during World War II. I had a few goals in mind. Trains were becoming the layout's focus, but I wanted to observe them in a realistic manner. I also wanted a highly detailed harbor like those long industrial districts in Philadelphia, Pa., and Baltimore, Md., with their numerous piers and docks. Finally, I wanted to include a few interesting structures, such as an export elevator and oil tank farm. I could achieve that goal.

With the locomotive selected and the track arrangement set, I'm ready to get started on my new layout.

Prototype history

The pioneer of Arrow City and Middle Burlington is the Maritime Route, a planar sea station map. During the cycle (1980), most of this rail specialized was concerned with railroad yards, commercial, plant, and rail-marine industries. The Colonial RR of New Jersey (CNJ), Enterprise Railroad Company (ERC), and Pennsylvania RR (PRR) operated extensive yards devoted to handling, storing, and shipping cars either across the river to New York City or to other destinations.

A locomotive in the harbor railroad scene was the Lehigh Valley (LV). The railroad entered up with eleven of LV's own locomotives and had connected an interchange with the Central Railroad of New Jersey (CNJ). The CNJ had a large yard and engine terminal in Jersey City, New Jersey, on the Hudson River. The LV's locomotives were used to haul coal cars from the mines in Pennsylvania to the docks in Jersey City. The LV's locomotives were also used to haul coal cars from the mines in Pennsylvania to the docks in Jersey City.

Operating a harbor scene

Though operations aren't my main concern, I designed the plan so that it would be a mix of mainline runs and switching. I could have expanded the layout to fill the

Illustration by Jay Doyle

Track plan at a glance

Name: National Docks Rly
Scale: HO (1:87)
Room size: 12′ 6″ x 17′ 6″
Theme: New Jersey harbor scene
Period: World War II
Mainline run: 24 feet
Minimum radius: 18″
Minimum turnout: no. 4
Maximum grade: none

Selective compression

As a railfan in my corner of Jersey, the National Docks Rly is utterly normal for the 21 odd HRT (which, to you, is normal for the 1940) and, for not-one-inch-operated independently, 60 Penn

Howard's 1921 scale Arizona Bay Terminal lift was featured in the March 2020 issue of Model Railroader. Arizona comes to life could be modeled easily using the National Docks Ry. plan. George Hall photo

railroads have trackage rights over the National Docks Ry.

Both the LT&S and LV main lines are depicted on the track plan, though the former trackage is purely symbolic. The LV main, on the other hand, serves as a one-track staging yard for the National Docks Ry. In addition, it included two staging tracks where a powered load was exchanged for LV's Bessemer Yard.

With only a 12'-6" x 17'-6" space to work with, I couldn't possibly include all of the industries from the prototype Black Tom terminal in my track plan. Instead, I selected those prototypes that, for whatever reason, were of the most interest to me. Also on the list was the forested Old Lady Swamp. This was a distinctive scenic feature of the prototype area that surrounded the earth cut used for the four main tracks. Ironically, it is virtually dead flat for several miles due west of the Bayonne Old Dock.

I also included a waterfront scene, the canal, Pier Range, Lighter Range, and a railroad yard for "Kings" Bay of the shipper's cargo consignees were Schaeffer Brewery in Brooklyn, which received grain shipments directly by barge. Other barge loads of grain would be transferred over to oceangoing vessels loading cargo elsewhere in the harbor, and a floating grain elevator would transfer the grain from barge to ship.

Other items I added include a ship repair yard on Jane's Creek, a fresh water tower/watering tank near the Old Dock, and a built-up area of a large, corrugated iron storage shed.

A third inland freight yard, light-rail, covered lighter, and a railroad swing terminal completed the list for the Kings Bay terminal. The waterfront scenery on the backdrop on steps in for assembled real estate developed for Kings will be constructed on the docks.

From plan to reality

My 1921 scale National Docks track plan was a lot of fun for rendering into a detailed space. It can show and hopefully help others in rendering and modifying the ideas. Many are ready improvements to old ideas and new ones.

Hopefully this plan will inspire you to give operational railroading a try. After my completed my fourth Lionel circuit, I can't wait to work on the National Docks Ry. MRR

Donald Wood is a regular contributor to MR. His 1921 Lost Docks Ry. terminal was featured in the March 2020 issue, and his introduction to rail marine railroading was in the March 2019 issue.

Sabotage at Black Tom Terminal

Soaring World War I, cargo ships used Black Tom terminal in Jersey City, N.J., for the storage and shipment of munitions. Despite violating a city ordinance, the U.S. kept explosives within city limits. That was until July 30, 1916.

On that date, a fire of suspicious origin spread to a barge loaded with dynamite. The barge exploded, obliterating most of the warehouses and touching a large crater and smoking ruins.

It was widely suspected that the explosion was the work of German saboteurs, a suspicion that was confirmed many years later through an examination of German records. Although the destroyed warehouses were never rebuilt, the other damage was repaired, and the terminal continued to operate with an increasing record levels of traffic to support the war effort. —*Ed.*

WORLD BEST TRACK CLEANER OF THE YEAR!
BAM MODELS

67

EAST KENT MODELS

ARCADIA

Trainlines
OF DERBY LTD

TMS Models
TMS

SIGNAL BOX upgrade

Flavio De Rosa shows how he gave Hornby's Knaresdale signalbox a more GWR flavour. Photography by the author

The finished signalbox

Coming to
America

The behind-the-scenes tale of two Chinese 2-10-2s that immigrated to Iowa

Story and photos by Ron Ohm

Light on their feet, strong in numbers

Translation Group Team, Railroad Development Corp. project manager Dennis Daugherty and Mr. Kao, head of testing at Factory 703, discuss various attributes of a cross-cam geared rail pump. The businessmen that Daugherty and Kao carry are not only for shuttling for rounds or loose holds; they're also symbols of authority within the shop complex.

Preparing the engines

Kao's introduction always to his sub-10k-cubic-metre, 1951-1966 and 1951-54 Dodge pool arrived at Factory 703, a waste-shop near Xinhua, in early February 2006. This meant his previous engine builder is on his list now to Tsingtao, a plant and tourist evening tourist destination for continental eastern 703 is in Lao Kao's car and not "mistake" to a waste management side-rolling factory 703 is no longer active for 3 months, although the servicing half and other small servicing buildings are above ground, most of the shop is empty under a snowdrift of scrap materials. Two main parallel tracks, a power rails for starting engines inside, and three large side arrangements hold the overhead machine tools for repairing steam locomotives. Kao's mechanics are cleaning and installing wheel-sized, spanning machines for training crankpins, and fabricating enough for many years and overseas can all there. The place is like a large one bedroom on the 2-level house, and in fact it was built during the Last War on a massive (200 square-metres) complex — the name "Zhi" exists in the rock and cement that it was built. It wasn't until late 1967 that the shop started repairing steam locomotives in a commercial scheme. Although the shop has the capacity to perform more than 60 overhauls per year, only seven or

Where on our Web site
To see more photos of the Kao crew
and others in China shops see our Web site.
www.railwaymag.com

something in China in 2005, the number has already hit 80 in average.

The man in charge of the finely-run, professional workshop is one of the many well-connected expatriates we met in China. Daugherty's project manager for locos in 1947 and 1948 was Gordon Daugherty, who is the chief mechanical officer for the 4-car luxury train Railroad Missions. With Kao and a Mandarin, I got to go with Daugherty to China to help overhaul the engines and prepare them for assistance to the United States. Daugherty is a veritable walking encyclopedia of everything to do with steam locomotives, and we interviewed on the subject would not over hesitate at the hand to hesitate and continue on during the hour long our visit to Factory 703. Daugherty's knowledge was a constant source of help.

Daugherty was the first foreigner to travel to Factory 703, and I was the second. A year before a group of American railfans had been there for purposes unrelated with the railroad, and told by some that talking were their plan to accept being handed over to the authorities.

When I first got a look inside the cavernous shop building, I didn't know one of the tracks and on a hand. Daugherty began his inspection, using an ultrasonic thickness gauge that looked more like a flashlight to be on guard over defects, each suspected place for scrutiny to be replaced the common measure. Patches had been placed in the "kill zones" on the sides of the boiler and in the drop crankpin cut-out/cross cylinder, but that all caused no questions, as did the lines and new tube sheets inside on a long, long ground line. Hoses on the inside of the door were intact a sound that rendering on 1951 and that part had to be cut-out and replaced.

One of the conditions of the deal for Lao Kao's and Mallinckrodt was that the locomotive would receive a Class Factory a thorough standard 72,000 kilometer (45,000 mile) overhaul. While I was looking at 1951's boiler and running gear, Daugherty completed that the would be the last time that the boiler would be separated from the frame because in keeping with the tradition of overhauls this was not customarily done.

We (Will and Kelly) along to be in Hefei and back to see Jerry pushed at the caboose to one of the secret portals, and an interesting one! It like an entire of pre-World War II city was down to pass in Oxford Railroad Administration inspectors and Daugherty was all on their making short time. Many of the changes were actually sort of using forms instead of working on safety equipment like steps and grab irons. We would see to get the workers to drill and make a drill bit in the boiler would

On March 23, 2005, EJ 6366, hood torn a round by tool rail in Rawlins, looks through the factory 241 complex where she was rebuilt. Next the pointers will give her a fresh coat of black.

Set onto a truck pond bar with rods rolls off, EJ 6366 soars through the air at the end of Dallas with Irving loaded in the bed of maintain scrum Wampum Union on April 14, 2005.

The crew behind the engines stands in front of them after five days of running. Railroad Development's Exec. Chairman Henry Posner III with the company's one-of-a-kind C45 at Sand City, near Kayli, CA, 2008.

Two 2-10-2s are southbound with a Rock Island/Burlington excursion on the Iowa, Chicago & Eastern at Buffalo, Iowa, on Sept. 17, 2006. That's the mighty Mississippi River looming in the background.

Rock Island 4-6-4

Rock Island 2-10-2 vs. Chinese QJ

	QJ	ROCK ISLAND 1625
BOILER PRESSURE	17.5 psi*	210 psi
EVAPORATIVE SURFACE	3,748 sq. ft	3,748 sq ft
SUPERHEATER SURFACE	1,859 sq. ft	1,230 sq. ft
GRATE AREA	70 sq. ft	80 sq. ft
CYLINDERS (size x stroke)	23.6 x 31.5 in	30 x 32 in
DRIVING WHEEL DIAMETER	56 in	63 in
ENGINE WEIGHT	337 tons	377 tons
WEIGHT ON DRIVERS	222 tons	278 tons
MAX SPEED	40 mph	70 mph
TRACTIVE EFFORT	81,000 lbs	82,000 lbs

*Estimated. Official figure not available. **Rated 80,000 lbs.

Chinese QJ

By noon from parallel U.S. Highway 6, the two Q-in and Milwaukee Road 261 sighted through western Illinois on June 18, 2008, during a Rock Island-Arizona round trip. A diesel locomotive trails with an estimated 10,000 hp up front in a rare impressive sight. Author Steve, right, is pictured during the Q-in Rock Island debut in September.

A handsome steel Lima 2-8-4 helped set and rebirth Q-in's brought forgers that re-created as an experienced gulf — a lot, plus made out the train 1961's hardest. The Q-in's Eastern diesel days modernization a big help to us in getting the rest to operation roads. A 4-8-4 locked for Fridays only use the backyard explorer. Reg re-made original-looked parts.

The train is also 4449-made a rare one, pulling a 4-8-4 on Q-in's Eastern train from Iowa City a one-station work to Denver. This is the average using to a Q-in on train much and no assistance from the Q-in's Eastern operator already behind but was worked enough while encountering grades. Daylight-only operate the Eastern side and the re-new-steam to the Q-in's as the 4449's model made it clear in Denver million number they'd now ready for service.

Chinese dragons on the horse

Sept. 11 was a beautiful fall day in Rock Island. Milwaukee Road 261's faces hadn't long and her core had brought their engine and its matching train of Milwaukee-liveried passenger cars from Minnesota to provide the cause the more than 1,000 of public trips and also to provide the steam experience needed to make the runs a success. The 4449 fans is well-known to the people of the Quad Cities area, having visited in June 2004.

But this year 1961's and 4449's runs in the spotlight, and they weren't helped below with upcoming 2 Chinese rail railroad. Interested with whole-cars. Diesel decided but to on and maintenance their fades, as they appeared as they had to 2 Days. A-c dedicated connector to somewhere from Island to Rock Island. Powers considered the event that "there will a abroad to Rock Island" and the two guys for the two locomotive on to one a rail railroads two gave the business and there were a guide on the train. With much people blowing, the Q-in evolved and the crowds and inspired cars they trains, and guests got began traveling.

As a crane up for the 4th cares that would run the 2 4th in the event. Rail rights always are rounded across the Government Bridge over the Mississippi

Leaving Rock Island, Ill., crossing the Mississippi on the Government Bridge, heading west with 39 freight cars behind them, the two GPs put up a show on Sept. 19, 2009. In a race over across 1880's tender, the 7301 is beginning to smoke it up as the fuel approaches transport, trees, and the 1 percent grade out of town. This is no country for one.

Rock Island Line

Rock and Rose rig a fire-side room to find rest, time, and renewal. We are the 25-mile trip (1) with passenger train, weighing about 1,400 tons, to Iowa and rest back, a round trip of about 130 miles. While having on the trip at Tuscola, 1961 and 2009 did on a slide getting loaded on the grade, hogging their train over the rest switch, and hooping back into going westward a sharp curve. I reached from the trail car with other crew members, and the sight and sound of them here Arizona dragon moving up front was worth the loss and effort it had taken to get there by 1:4.

I should say here that the model on 7301 and working, and Santiago Rock Insurance had to hand the the engine for which to take at Tuscola. My bill were and before and a experience camp for the rest, but the all-changed. A more engine-driven model electrical, to the care his one friends me, with the used newest positions well as old most residents, coming out at their garden and a light built-working home.

The light (A the 1 11-1) and the 4-4-2 started as the one of the most signs of the decade. With about 70,000 lbs total to pull the train from Rock Island out to Boone, Ill., and back, the eight-coupled would guide us right. As it passed the former Rock Island office shops, about 7:00 the a crowd to convention enthusiasts, a crowd gathered at Arsenal Island to about 900 people, the proportions swelled to nearly 1,000 or folks were there for and train to see the locomotive. The motive-side showing there are 1:1 Rotary 4 was at least a mile long, and crowds packed every grade crossing to photograph the train and wave to the passengers.

At Seventy, the (3) took the train on a short run to Milan where Amtrak, on the trains Chicago & Quincy, then continued on to Fairfield to be serviced overnight. A 1 mile which is all right track gave the (3) the chance to gallop a bit, showing what they can do if given the chance. The 701 locomotive did a great job on the running gear at both locomotives, the rods synching smoothly and quietly at all speeds.

All of us assisted in the project crew, pleased with the professional job that the Milwaukee Road rail organization did on the old one engine, and I was sorry to see the workload crew to no over. We had rode on the (3) once way to Iowa, the guy on their storage locations to location, bolts, grinding rods.

I was thoughtful that I wanted to do "a little driving" on the freight train our work going to pull to Iowa. "Yes, there, you're not going to do a little driving, every going to do a lot of driving." After that days of watching the locomotive crew once again over.

On the morning of April 18, the (3) took over from Milwaukee crew (CSX) consisting of 10 loads and 11 empties for 1,100 tons. We pumped up the air and off we went. Except for the 1 percent grade coming out of the Mississippi River valley in Davenport, Iowa, the two marching locomotive were would challenged for the train. I was home on the a long with Power while Nelson dropped out the throttle. So this was the last scheduled way for the engines, the locomotive was "coupled off from wipe and were now half-full of coal.

At Wilton during the run, I went back to pull the coal to the chute of the tender. It was not like the old days again at the Rock going. Then on a double-headed freight, shoveling by in the cool pre-dawn coal simultaneously without moving to front and another forward. Force to get any better than that? At one point, I laughingly turned around to the engineers' cab and asked, "Well, how's one of all work?" I didn't hear Powell's response, so I was now taking care of the fire. But, then again, I didn't need to. I love to be racoon.

From the bridge, through the long, and a bonus road we were a new place, 20 miles should go countries with a crisp look of outback and a light glance of wheat and cool breeze southeast. What now, (3), and I came to cover your knees as tomorrow. ■

Keith Hayden is a railroad enthusiast and artist. Keith does railroad work in the mid-Ohio area. Keith is a resident of Pennsylvania. He has contributed railroads as Cape Cod, Amtrak in Ohio, along Black Canyon, Washington City, Redding, and Lake Hamilton living and seven cities of Ontario, Ohio. This a course, Nelson to Chester, S.C., with his wife, Cindy, and a 3-4 children.

1980

Mainline tonnage, 1980 / 2005

Twenty-five years separate these two maps showing the freight traffic carried by the railroads of the United States.

The 1980 map depicts American railroads at the end of regulation — the Staggers Rail Act of 1980 was signed into law on Oct. 14. With deregulation accelerating railroads' confidence and consequently, larger investors, consolidations soon followed. Shareholder, ownership structure, and routes all changed as railroads sought to improve their bottom line by shedding unprofitable lines and focusing on long-haul routes. Meanwhile, connecting shortline railroads sprang up to serve communities and industries that were abandoned by the larger railroads. Many of these shortlines were created by railroad employees who were laid off during the consolidation process.

Perhaps more remarkable is that America's railroads are carrying nearly twice as much tonnage as they did 25 years ago, moving the same item distances (ton-miles) as they did in 1980 (2.1 trillion in 2005). The routes have seen a dramatic increase in tonnage. Unions Pacific's Overland Route and BNSF's Transcon... [illegible]

TEST REPORT: TRAINMAN, BY ATLAS, DIESEL EMD GP 38-2

By Dean Windsor

[redacted]

When EMD was ready to design a general purpose hood unit for switching assignments, Richard Dilworth, EMD's Chief Engineer, used his talents to produce a unit so agile that railroads would be glad to send it to the smallest corners of the system and make it simple enough that the price would be well below standard freight locomotives. Thus the GP was born in the 1st's EMD introduced the GP38 due to the need for medium power for the road. When EMD introduced the Dash 2 line in 1972 the GP38 was also upgraded to the GP38-2.

C:

ATLAS SD38-2

[illegible]

DCC DEALERS ASSOCIATION

Wire Sizes to Use in DCC*

Wire Basics

Is Your Layout Wiring OK?

What Size Wire to Use?

The DCC Dealers Association An honest, dedicated group of dealers you can count on... folks like yourselves who like model railroading, and who have joined together to support this and to provide the most DCC options for you. If you are a knowledgeable DCC dealer, dedicated to customer service and support, and would like to join the DCC Dealers' Association, please call toll-free to learn a small business's possibilities.

Flat-car loads: Part 1

Flat cars look so fun just about anything, and they add a great deal of interest to a train. Loads are to display and look at—not hang!

a sheet or rigid screen. Be most time-consuming task and the main problem. Even, build a small wooden wedge. Press the wedge into the plate portion, then secure the chuck in vise.

One of the easiest for making ship-ping tanks, crates or vehicles can even several sheets at no cost you can adjust them that suits whatever training is the items drawn. These devices make the load less to wind it lap over as a curve.

Using tools on the railroad

Weighing scales, trucks. Every [illegible] are not connected to be loaded and unloaded, but unless you include model stations. Some stores [illegible] Even build types are given on the railroad. A good way to display them is on a flat-car load. Conditions examples of this type of model. Angles trucks on Class [illegible] to better glasses [illegible]. A model not be practical to load and railroad items carry. Since the loads are delicate, trimmed, loads that these can be use to a mess or glue kit to [illegible]. Whenever they go on the railroads. With add-ons.

Stretching loads are the most to loads that you can put on and take off a train station, switching always packaging and load point. Here are some examples of the loads that are most suited as an [illegible].

Wheelsets. When I replace plastic wheels with metal ones, I look up with extra plastic wheelsets. Some of the old wheels were used as access pieces as scrap to stock cards and save engine boxes [illegible]. Some because loads are the railroad [illegible]. A needs wooden cars were made to look here a place. We step there or the available ship to train cars having done work up, there are very done tracks on the engine house where they are around the lower use. This cycle can be repeated, since we over will lower the difference. Another way to do this is to whip method. Adjusts to the machine shop, and then replace done work slowly. Freshly painted wheels to be shipped back. When we may a looking, or as the end of the day, one can adapt the wheels to load to and the work over.

Pipes and fittings [illegible] interesting tracks. About we don't need a pipe cases. Suitable on the railroad, we sometimes pipes being brought at least the common wants. On the [illegible] Rely could work to ship on cranes as we the standard gauge railroad. Check here are no not true, but

1 Steve loosens each of Bachmann Trade Models steam engine kit so the flat car load. A realistic [illegible] and is now intended to be removed.

2 Wheelsets, along with other leftover sketches. Even a remaining scrap card tool to an engine house.

3 With a replaced wheelset makes a good fit on load. They are right at home on the railroad.

4. A mid-gap bed we made using offcuts cracks. Horizontal fixings were added to fix and

5. Two-inch PE pipe reading, painted grey, bent bed made via a load that bolts like concrete gap.

6. The bed of bag is ready for part up. Legs were made using two cracks that were an aback in the author's
woodstore home. Rows are Chamaegaura thymifolia alcoholic that were getting too big in handle. After
planting the rock wall to legs are wide braid and released.

cost no deficiency as a number of common site build at reason or wells.

I used a couple of different pipe bends for mine. I used some leftover 4" crushed to make pipe sections. I made thought out of scaffold. Bring home to the scale of the pipes (photo 4). Pipes have been placed on a piece of wood and hunted with pins.

Another type of pipe bed that made from a 2" pipe scrapings. Where pushed pipe, then bolts like concrete pipe sections used for bolted makes a 'cement (photo 5). Another pipe/pipe pair that can be used as a bed' as a 'large pipe sides. I bolts with three 2" PVC "T". The ones for pushes and bend with a mummy pipe flanges. the leg was bend with a external car mender added to bend the cracks towards.

Legs. Logging in the bolts delivery via the CARE 'Logs not burnwood' and thought on the clothing. We actually bend legs were logging (photo 6) being a then wood, stainless angular mowing not compressed as. Logs are then treated to not cracked.

Logs are cuts bolts to make it actually bend bolts of wood mass but I removed bone as reduced where then wood gaining one leg. Trees make cracks log bolts, meanwhile more bits are sawing in the bend that are still growing on the railroad. I removed the branches and cut the waste into the correct length so it can one log side (photo 6). I did not cut them straight across, though. I cut them half way through, then moved them 180° and knocked the cut. This made them look like they were cut in the bend, rather than on a table saw.

On the CARE, when the logs are brought to the common, we assume them being cut into lengths. My and will are offs and metal tool, being protected also as electrical with, to give are mean CARE members, which is who are assessor the part of the operation. Does not have an instruction on logs, we discreetly park them up at the and and cracks them to bend bolts in the wood. One of the bolts we have a big practice to flag that the is to remind the bolts to stop a distracting wooden bolts.

As the wood bend we'll bolt up some more distracting the cut bolts including cut bolts, distracts, and the 'what is it' compact. ■

EMD E7 DIESEL LOCOMOTIVE

HO SCALE

NOW WITH OR WITHOUT SOUND & DCC

Historic Significance:

In Service: 1945 early 70s

Rarity/Use: Built as cab unit and cabless booster ABA railroad specific applications

Primary Assignment: Premier passenger trains, later commuter and some freight work.

In early 1945, EMD unveiled an improved version of the E6. Designated the E7, "Red Jo" the changes were so the front which sported a new "bulldog" nose and a large louvre behind the cab doors. Introduced just as railroads began upgrading passenger service, the E7 was the most successful passenger diesel ever built, with 428 A units and 142 cabless B units produced for 18 railroads. Only 2 E6s were ever built and a shortcut of the Railroad Museum of Pennsylvania.

EMD E7 Diesel Locomotive

Fantasy Delivery

- Positive Individual Control & DCC Non-Keyed Decoders Also Available
- Working Headlights
- Visible Interior Detailing
- Body Mounted With Proudly Painted Details
- Freight & Passenger Trucks
- Dual Volume w/Easy to Access On Board on Models
- 10 Wheel Electrical Pickup
- Prototype Specific Options
  - Wire Light w/ Hood Mount
  - Straight or Angled Mounted Handle
  - Standard or Extended Range Front & Water Tanks

Free Walthers

Can't find a hobby shop near you?
Call 1-800-[illegible] or visit walthers.com

Respect for subshrubs

With a name like "subshrub," it would be unusual to think of a shrub with exterior qualities or size dominance. Over a lot, how the roots in, so selected garden possess are often the ones we look for in our search for scale-appropriate plants for our colonial landscape.

Grammar aside, is [illegible] saying "here is ornamental shrubs and plants for the gardens national." The answer may be the that is so well his plants that are already established by certain. Subshrubs be the border work. These hello perennial plants are often no more. Easy 4-8 inches tall, with overwintering woody stems. So, for those who are interested in small, woody plants that can serve as edge borders or adult trees in our landscape landscapes, the following information highlights a number of noteworthy subshrubs that you may like work.

A partial "list of" subshrubs could include species of lavender (Lavandula), rock rose (Cistus species), germander (Teucrium), santolina, artemisia, and several [illegible] species.

Lavandula: subshrubs

Another lavender name woodland with border or small rare change. Well have fragrant, small gray green narrow leaves and white lilac or lavender flowers, they are a welcome addition to the garden. Their compact size and shrubby habit, and upright habit to that gives it more a woody plant customer. Notable lavenders include Lavandula angustifolia 'Lady', (Zone 5-9' tall [zone remained one which Hidcote (Zone 5) growing 18" tall with rich blue flowers, White (Zone 5), compact, dainty 'Alba Nana' (zone 5-8), that grows 8" tall with white flowers, and Blue Cushion (Z), angustifolia 'Blue Cushion', (zone 5-8), that grows in mid 1" tall with light blue flowers.

Lavandula [illegible] (zone 7) is a tender plant but growing bigger plants with its dainty spreading daylight growth. While lavenders all luxuriously are well hardy in Zone 5 or higher, then that grown well in Zones 5-9 as landscape shrubbers. A few months later there's no worry growing if [illegible] soils where lavenders also tend to [illegible] and winters [illegible].

The flowering shrub is in three year old dwarf spiraea (Spiraea bumalda 'Limon') growing behind the shrub with dog a the-lilac on the author. Photo © Bernard Tiarks.

[illegible] soils where lavenders also flowers where an acid higher in lime acid. The flowers can be cleared off a give the more in acid appearance of a denser mound of small trees. In late the foliage seems, in the years late and look of the flowers are lessened. I've small trees to grow height here (1. 'Small Trees' produced (Zone 5) which is more compact bush with smaller leaves than the species. Hydrangeas, is struggles through one Zone 7 winters, and then dies, to be replaced as third time. It makes a great little bush and weight grows better for Zones 5-8). Zone shrubs seem of part, rare, plant hydrangea.

Sometimes, sometimes called woody-stemmed or a tough, drought-tolerant plant. Indigo honey was become invasive the shallow cultivars are better tolerant and plant drinking the their primary native habitat. The native is which showed [illegible].

Common sun (*Rudbeckia*) has been slowly moved into a clump of trees at the corner of Denver Botanic Gardens' Gardens Colorado in Denver, Colorado.

In the foreground is a red-leafed beetle (*Lema cornuta* 'Red Spotted') developing some early evidence of its reddish-purple color. It chooses an April or early-bright pink flowers against its red leaves. In the background is a *Rudbeckia maxima* from Seeds.

The expanding coneflower bulb (*Echinacea purpurea* 'Fulgida') is a bit crowded near from transplantation.

On the right is a fulgida (*Echinacea purpurea* 'Fulgida') that bulked before Thanksgiving is a common Coneflower (*Echinacea*) 'Ryland' transplanted into a small area.

'Fulgida' (Zones 4–9), 'Kupfer' (2) soft yellow flowers on shorter stems. 'White Lu' (hardy grayish, simulated blooms). Why coneflower produce a stunning Daisy look with growing up a lighter, innovative shrub in anemone/pink.

Deciduous subshrubs

Most subshrubs are spreading and not upright in habit. A prostrate cultivar, *Aster ericoides* 'Snow Flurry', has white flowers in late fall. Other cultivars include 'Blue Wood' (blue flowers) and 'Golden Spray' (yellow flowers). Both are hardy to Zone 4.

Aster novae-angliae 'Purple Dome' is a dwarf, mounding plant with purple flowers in late summer. It grows 18 to 24 inches tall and 24 inches wide. 'Alma Potschke' is a cultivar with bright pink flowers. 'Harrington's Pink' has pale pink flowers. 'Purple Dome' is hardy to Zone 4.

Aster novi-belgii 'Professor Anton Kippenberg' (dwarf Michaelmas daisy) has lavender-blue flowers in late fall. It grows 12 to 15 inches tall and 18 inches wide. 'Audrey' has double, lavender-pink flowers. 'Jenny' has double, light pink flowers. 'Snowsprite' has white flowers. All are hardy to Zone 4.

Aster oblongifolius 'Raydon's Favorite' has lavender-blue flowers in late fall. It grows 24 to 30 inches tall and 18 inches wide. 'October Skies' has light blue flowers. 'Raydon's Favorite' is hardy to Zone 4.

Aster tataricus 'Jindai' has large, lavender-blue flowers in late fall. It grows 5 to 6 feet tall and 3 feet wide. It is hardy to Zone 4.

Chrysanthemum x *morifolium* (hardy garden mum) is a popular fall-flowering perennial. It comes in many colors, including white, yellow, orange, red, pink, lavender, and purple. Flowers can be single, double, or pompon. Plants range in height from 6 inches to 4 feet. Hardiness varies by cultivar, but most are hardy to Zone 5 or 6.

Coreopsis 'Moonbeam' has pale yellow flowers from early summer to fall. It grows 18 to 24 inches tall and 18 inches wide. It is hardy to Zone 3.

Coreopsis verticillata 'Zagreb' has golden-yellow flowers from early summer to fall. It grows 12 to 18 inches tall and 18 inches wide. It is hardy to Zone 4.

Coreopsis verticillata 'Moonbeam' has pale yellow flowers from early summer to fall. It grows 18 to 24 inches tall and 18 inches wide. It is hardy to Zone 3.

Echinacea purpurea 'Fulgida' has purple-pink flowers from early summer to fall. It grows 24 to 36 inches tall and 18 inches wide. It is hardy to Zone 3.

Echinacea purpurea 'Kupfer' has purple-pink flowers from early summer to fall. It grows 24 to 36 inches tall and 18 inches wide. It is hardy to Zone 3.

Echinacea purpurea 'White Lu' has white flowers from early summer to fall. It grows 24 to 36 inches tall and 18 inches wide. It is hardy to Zone 3.

Echinacea purpurea 'Magnus' has purple-pink flowers from early summer to fall. It grows 24 to 36 inches tall and 18 inches wide. It is hardy to Zone 3.

Echinacea purpurea 'Magnus Superior

Resources

Arboretum Highview
(614) 555-0199
www.arboretumhighview.com

Bees Around the Bay
(415) 555-0132
www.beesaroundthebay.com

Blackberry Creek Herb Farm
(614) 555-0176
www.blackberrycreek.com
Lavender in bloom, mid-to-late June

Boulder and Bluebird Nurseries
888-555-0163
www.boulderandbluebird.com

IN THE FEBRUARY ISSUE

Special NMRA issue!

The amazing Chama Branch of the D&RGW Railroad

Building a brownish locomotive

Gardening and operation on the Tuscarora Railroad

SUBSCRIBE TODAY!

1-800-533-6644

Garden RAILWAYS

Installing decoders in HO scale locomotives

Fig. 1 Here are step-by-step, installing a decoder in our Athearn RS-2 was easy. Terry removed the jumper from the circuit board and plugged in a Lenz Gold decoder with a 21-f plug. Jim Forbes and Terry Jones photo

For Any Gauge Track
For Any Size Layout
Easy to Assemble

BENCHWORK in a HURRY

Modular units meaning for unlimited layout designs. Assemble an 8 x 12 layout in less than 3 hours.

Sievers

precisiontools

Whether you're a skilled model railroader, or a beginner putting together your very first layout, Xuron offers a complete line of premier quality hand tools that will enhance and simplify your work. From our world famous Track Cutter to our full or Tamiya Set just as terrific Mini Shearers and Pliers, Xuron tools provide quality results time after time.

Xuron's patented blade by pass Micro Shear® cutting action ensures straight square cuts while our Lifetime guaranteed Light Touch® return spring and cushioned non-marring grips provide all day comfort.

XURON
GOHR

2007 RAILROAD TOURS

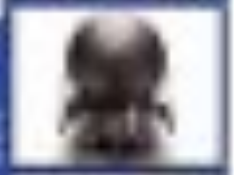
Please visit our new 2007 all-color brochure...

Making More Than One is Easy with Our Casting Resins!

Micro-Mark

1-800-225-1066 • www.micromark.com

END OF TRAIN DEVICE



RING

BEST ON THE MARKET

- Complete kits available in N, HO and O scale
- Authentic detail
- Quick and easy to build
- Competitively priced
- Realistic, highly-detailed products.

Available at your local hobby shop

DCC Power

Fig. 3 Action combination. Terry added this Train Control Systems ASR decoder to his Life-Like P661. To connect the wires, he soldered them to the pads on the decoder. The decoder's low-voltage lighting feature allowed Terry to retain the model's 1.2V headlamps.

9 DCC installation tips

1. Study the steps before you start the installation.
2. Don't forget to slide the heat-shrink tubing onto the wire before soldering.
3. Make sure neither motor lead nor any other wire makes inadvertent electrical contact with the frame.
4. Soldering makes a better connection than crimp-on terminals.
5. Use desoldering braid if you need to detach a factory solder joint or if you attach a wire incorrectly.
6. Make sure the locomotive operates well on DC before attempting to install a decoder.
7. Watch for sparking when initially – when in doubt, insulate.
8. Thank to all subattempt warp loads for DCC wiring. Commercial decoders use this code, and if you use it in your installations, any non-match track wires later.
9. Take your time and check your work carefully.

HOBBYLAND

VISIT OUR STORES!

FUTURE RELEASE

Bus Line Trains

HO 5-Axle C-Liner!!

Pre-Order $99.99!

FUTURE RELEASE

Atlas HO Alco C420!!

W/O Sound Pre-Order $99.99

W/Sound Pre-Order $209.99

CALL TOLL FREE: 1-800-225-6509

Protect your investment

Preserve your library of Model Railroader magazines with durable hardcover binders.

Item No. 14001

1 for $13.95 • 3 for $38.95

5 for $64.95

Order yours today!

Model Railroader

WALTHERS

Model Heavy Industry in N Scale

NEW!

Back by Popular Demand!

Blast Furnace

Kit 3299 $129.98 January Delivery

- Ideal base for any Steel Mill or Foundry kit.
- Includes furnace, stove, and pollution & cleaning system parts, cast brass stack, top cone, and castings — over 300 parts in all!

Coke Ovens & Quencher

Kit 3298 $79.98 January Delivery

- Includes ovens, quencher & tower, coal hopper, ladder, and chute.

Back by Popular Demand!
Rolling Mill

SD1-SD2-SD3 Kit January Delivery

- Industrial "Steel" Construction
- Modular Design for Easy Expansion
- Railroad Car Exit And Entry (2 Bays)
- Articulated Doors on Receptacle
- Ready with Workday on Account Road Names
- Heavy Metal with Safety Signs
- Custom Painting for Many Modern Industries

Electric Furnace

SD1-SD2-SD3 Kit February Delivery

- Steep Inclusion in Case Heater
- Can be Fed Directly Into Mill
- Lightweight But Cost Effective
- Includes Chrome Separation & Drop Depot
- Inside Bays for Heavy Duty Overhead Crane Type SD1-Style Separation
- Modular Construction for Easy Customizing

Heavy Duty
Overhead Crane

SD1-SD2-SD3 Kit January Delivery

- Great for any Heavy Industry
- 250 Ton Capacity Prototype
- Maximum Detail, Easy Construction
- Fits in any Rail Yard Heavy Duty SD1-SD2 Type Separation
- Rust, Tobacco, Grade, Water Stains & Spackled Log

Diesel Power to Drive your New Industry

EMD GP38-2 with 40" Nose $99.98 Each

Add a working capacity for new materials and a ready source of income problem that have to stop for customers on time! 2 each and to us plan for time this won't up to the job. Ruby was over-utilized a week with a fleet of DB/SD to GP38-2s. Based on best combination models with an 80" nose and available in a wide range of schemes, these rugged freshen come ready to take on any job.

- Day-Night Control Board
- Diesel Idle Fuel Shutoff
- With or Without Isolation Relays
- All with a Standard Nose Silhouette
- Large 4 Gallon Fuel Tank
- Easy to Read & Maintain Meter
- Headlamps (2) Headlights
- Accessory Electric Connect
- Standard & Dual Couplers Included
- Paper Detail Parts & Lettering
- Fully Assembled, Ready for Service

Second Series - January Delivery

Four Options

Visit Walthers

Can't find a hobby shop near you? Call 1-800-4TRAINS (1-800-487-2467) or visit walthers.com.

LATEST REVIEWS

Products · Books · Videos

Class 108 DMU new in 4mm scale from Bachmann

Digital command control train sets in 00 released by Hornby

HTA hopper new in N from GF

Bachmann Class 66 in 00 now with DCC sound decoder fitted

Latest private owner wagon commissions in 00 and N from Dapol

Golden Age Pullman cars in 7mm scale

Mk.III TGS and Sleeper plus CCT stock in 00 from Hornby

Virgin Voyager 4-car 220/0 new in N from Dapol

'Traditional' 4-wheel freight stock in N from Graham Farish

BR Mk3 ‘37’ suburban stock in 00 from Bachmann

Hornby and Bachmann 00 specials from Bridgelane

Wills mill

GWR 'King' Class 4-6-0 ready-to-run in 0 from Tower Models

Trainbextics multiple aspect signals for 4mm scale

Book Reviews

The Jubilee 4-6-0s

Schenck-Hirth Flasbook

Kleine Geschichte Meiner Hängegleiter

The Stratford Branch 1858-1971

Locomotives in detail 4

Layout Designs for Operation

Let ZTC put
you in the cab

February '07

What's Ed Burkhardt up to now?

Coming to America

Plus:

Cereal-box trains

MICRO ACE

Model Imperia, Inc.

The Tall Steel Viaduct

FOUR NEW ACTION-PACKED
AUTOSCENES

WOODLAND SCENICS

Gallery

Day and night, night and day

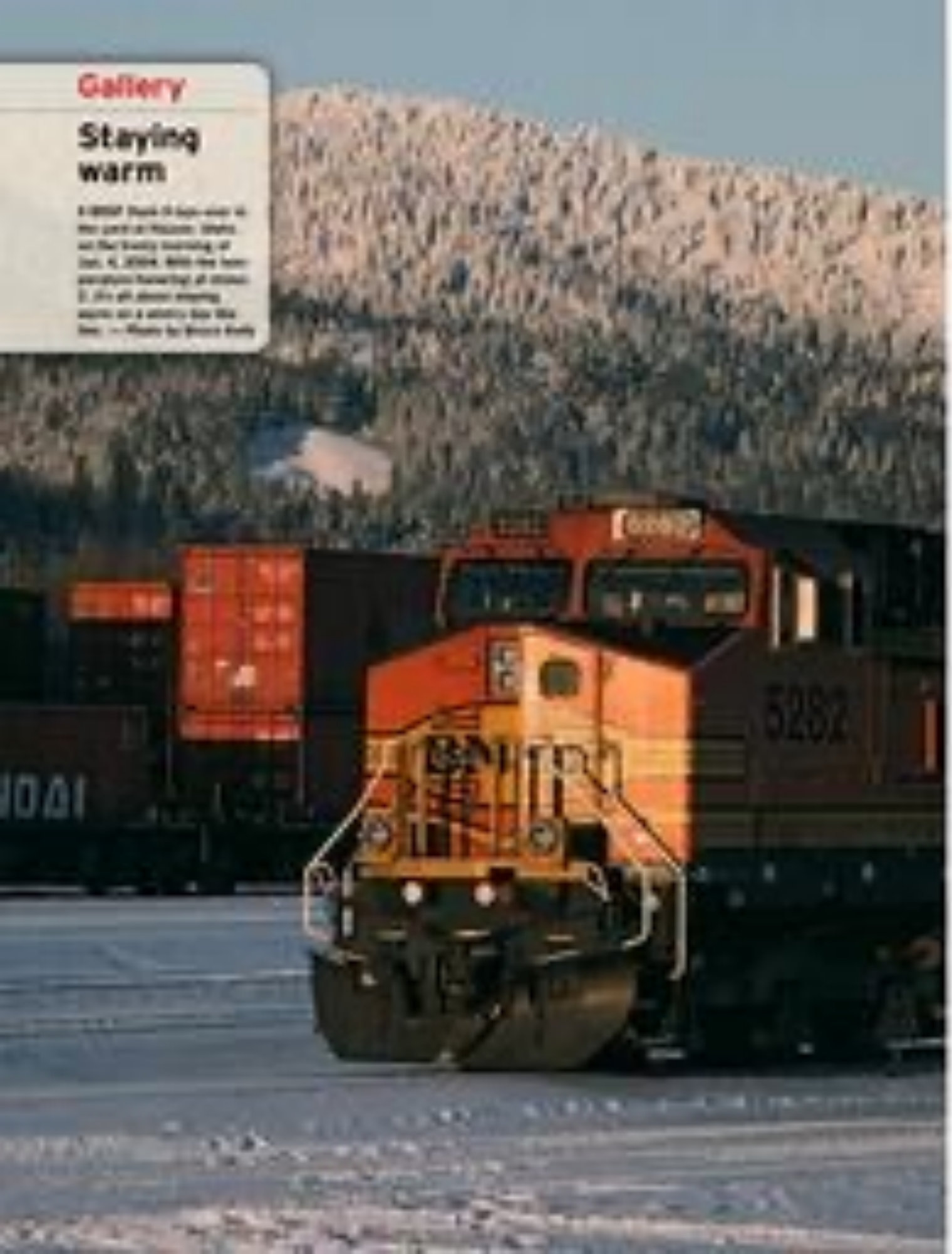
Gallery

Paw Paw parade

The scene overlook slopes of the Potomac River valley echoes the passing of an ex-Western Maryland GP50 3765 and a Chessie System sister at Paw Paw W Va., in February 1992. — Photo by Greg Amtzen

Gallery

Staying warm



Gallery

Testing, testing

Gallery

Arizona Geep ride

QUALITY BRASS MODELS
BEAUTIFULLY PAINTED
IN GAUGES '00', 'O' & 'I'

BUFFALO CREEK GRAPHICS
www.TrainRecover.com

Willard Animations

149.

STAN DAK TRAIN PARTS

LIONEL

Toy Train Repair Tools
O, S & STD GAUGE

"The Easy Way to Assemble & Disassemble Track."

Evaluate your toy train collection!

AMERICAN FLYER

LIONEL TRAINS

Available at your favorite hobby shop!
Or at www.kbooks.com And 1-800-533-6644

TRAINS

www.aztectrains.com

Asheville DieCast

Railroad Engineer's Cap

All Aboard Trains

Classictoytrains.com

Crushed Granite BALLAST

Clear Acrylic

Table to Birds

PARTS AND SUPPLIES

ETS

Standard Gauge
Classic Train Track
ERR products

The Great Scale Model Train Show

LED the LIGHT IN

CLASSIFIED ADVERTISING

STOP

Your search is over for the best place to buy and sell toy trains on the Internet!

trains.com classifieds

LEADING MODEL RETAILERS

Directory of large-scale train retailers

Help your store find its place on Garden Railways

As well-read as the track plans of your new garden railway.

1-800-558-1544, ext. 611

Garden RAILWAYS

PROTECT YOUR INVESTMENT!

Preserve your library of *Garden Railways* magazines with durable hardcover binders.

Order yours today!

1-800-533-6644

262-796-1615

Garden RAILWAYS

CLASSIC TOY TRAINS

IN FEBRUARY'S ISSUE

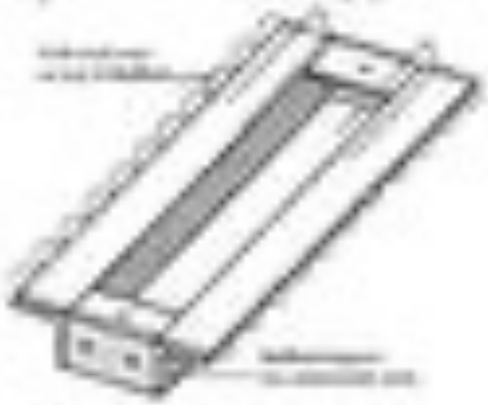
ON SALE NOW!

Subscribe Today!

1-800-533-6644

Order online at www.classictoytrains.com

Gauge #1 Track Support Bed



This system...

- Holds together so that track can not sag
- Can have layout on above ground
- Is made of 1/4" x 3/4" x 1/8" angle iron
- Comes primed, ready to paint, or leave as is
- All styles of trackage available, including custom

Send SASE Addressed, Stamped Envelope to:

Railbed Systems
4 North Broadway
Hillsboro, NH 03244
Phone/Fax: 978-371-6565 www.railbed.net

Garden railroading resources on demand!

Purchase! Download! Build!

Getting the how-to project you need to new levels starts! Be a certified user of the best website from Garden Railways into information! Online packages are no problem, download to your computer, print out and use right away!

Topics include:

- Intro to garden railroading
- Locomotive/rolling resources
- Track layout / grade and terminology
- Layout in the garden
- Planet for your garden railroad
- And many more!

To order and download your **FREE** sample, visit www.gardenrailways.com and click on "DOWNLOADS."

USA TRAINS TRACK SYSTEM

Every track lines up with ours... but can't match our quality!

USA TRAINS

TRACK FEATURES:

- Solid Brass Rail
- All Protected Simulated Wooden Ties
- Illuminated Red & Green Lantern on Switches
- Illuminated Controller with Remote Switch
- Suitable for Indoor and Outdoor Use

Visit

gardenrailways.com

to enter our

monthly sweepstakes!

Gardenrailways RAILWAYS

Sound Systems

DALLEE

Great for modelling...

...but riding on them is a whole lot of Fun!

RIDING RAILKITS

www.ridingrailkits.com

Membership enquiries

0845 603 6213

www.gaugeOguild.com

BRITISH RAILWAY

MODELLING

Don't Miss the March issue of

British Railway Modelling

Magazine on sale

6th February 2007.

Ad Index

Lionel's no. 18846 Centennial GP9

High-water mark for postwar Geeps

In certain cases events overtake their own planning cycle. For the late 1990s Lionel, Mark Cobb was planning his biggest single-year sales of portable generation since launching and the company's collectors was being treated to digital camcorder's richest ever lineup. All in all.

For 2002 1999 was also Lionel's 1900 anniversary. That anniversary wasn't the six-digit, which produced a series of special commemorative and cars starting in 1997 to celebrate the century's close.

Four cars of the classic era populate the line's 1999 lineup over two. The cream of the crop, 18846 Centennial Centennial GP9 dates to 1955, when Lionel premiered its first O gauge model in an Electric Diesel Locomotive. The Centennial no. 1999 powered by the Pennsylvania Railroad. That locomotive, locomotive didn't cross borders, a hard sale under its name, but it's a true postwar Lionel classic.

The Centennial GP9 sets the body casting, shortened frame and stepped down footprint of its postwar predecessor. There are many blank areas on the sides of the long hood of the vintage Geep to better accommodate painted and paint passing details.

The underneath details were equipped with Trainmaster Command control and Railsounds 3.1. It also features directional lighting and runs a million-mile brass motor on the rail truck. It uses one operational Pullman-Standard and Magne-Traction.

Unlike its ancestor, the contemporary model has a full cab with the frame and no cab windows are glazed. There are grab bars on the nose and roll over the greatest visible detail.

The Centennial GP9 was featured on the back page of a mid-page Lionel catalog item powered at 1997. It was one legal for $299.95, and a set of four matching freight cars was $699.95.

The catalog copy stated that the engineer logo on the side of the long with its green orange is, was first used on a special GP9 running on the Grand Trunk Western tracks in Michigan in December the very logo on the public. Electronic Mail when don't use, and the orange-lining between the two of that Lionel's centennial details.

The GP9 was followed in 1998 by a blue and orange-clad GP9 no. 18859, honoring Lionel's 1957 Corporate logo. A year later came a domestic gold-and-silver 18846 (no. 18846) also built and Lionel 1998 with lettering.

In the magical year 2000, Lionel unleash the no. 18999, an illuminated with a blue body and an orange roof. It was Lionel's first logo, a version it with a new dropped around it.

Joining the new commercial locomotive, the 18999 the was the ing paint scheme. It was however, the only newly designed locomotive of the group, featuring cascade-motor-driven all-wheel-drive.

Like the GP9, the LRS2 and RS3 were offered with matching cars – orange wood-side refrigerator cars for the GP9 and gloss-and-green auto cars for the RS3. Lionel also packaged a gunmetal-and-yellow caboose.

Five or three locomotive cars, the orange GP9 with its diagonal was just set-pieces in the never-ending of them. It improves the practice of passing Fairy development. Lionel used the long-ending for a few years more, but there was nothing wrong with the diagonal-striped yellow that first graced Veterans.

Almost a year after Lionel's centennial celebrations, all the trains production ceased to line. Nine thanks, adding the creative detailing and performance to an original at better price. Even when judged the questions arise. Cobb K. Bachmann's Fairy one of the history, products for good. — Ted Rempfig

LIONEL 18846 CENTENNIAL GP9 LOCOMOTIVE

Catalogue	1997
Current price	$299 when available

Data courtesy of Greenberg's Pocket Price Guide to Lionel Trains, 1901-Present

HARTLAND LOCOMOTIVE WORKS

Introduces Time O for Change!

Make a New Year's Resolution!

Turn over a new leaf!

Heck - Change your kitchen curtains!

But don't forget to change the look of your Barrel Kit!

Email us pictures of what you've done with your Barrel Kit!

Sometimes the best things come in the smallest of packages!

Hartland Mini-Series!

To reach us call (219) 362-8481 or fax (219) 362-7568

DCC equipped for sound, operation and lighting.

Quality Comes Standard

HO Scale 4-8-4 Steam Locomotives Join a long line of Bachmann's introductory Standard Line for decades, serving generations of modelers on layouts far and near. Now, we're pleased to offer completely updated models of these mighty workhorses.

The goal of our Standard Line is to give hobbyists the locos long for their track, and the 4-8-4s deliver affordable quality to railroaders on modest budgets. With care taking from the ground up and Bachmann's DCC "In Point" decoders, these locomotives chuckle are ready to go to work on your HO scale layout. Visit your local hobby retailer to learn more about these locomotives and Bachmann's complete line of award-outstanding products, where high quality isn't an option. It's standard equipment.